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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE,

FOR

MAY AND JUNE,

1870.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, STATISTICAL DIVISION,
Washington, D. C., June 22, 1870.

SIR: I herewith present for publication a condensed statement of the condition of the crops for May and June, together with a variety of extracts from the correspondence of the Department, followed by a report of the Botanist on his recent botanical explorations of East Tennessee, an account of the short-horn cattle sale at Xenia, Ohio, a letter on the Rheea fiber, notice of trials of harvesting machinery in Missouri and Ohio, with brief articles on West Newbury Farmers' Club, how to kill the curculio, the State of Oregon, the reclamation of tide-lands in New Jersey, tables of imports and exports, the Kew Gardens, facts from various sources, meteorological tables and notes for April and May, &c.

J. R. DODGE,
Statistician.

Hon. HORACE CAPRON, *Commissioner of Agriculture.*

CONDITION OF THE CROPS.

The season, thus far, has been very favorable to vegetable growth, except in the single element of moisture. The average heat has been greater in nearly all the States than in April and May of 1869, (in the West by a difference of 6° to 7°.) There has been a due proportion of sunlight, with few occurrences of destructive storms, but the rain-fall has been deficient in New England, in New York, between the Ohio River and the northern lakes as far west as Lake Michigan, on the west side of the Mississippi south of Iowa, and in the cotton States from South Carolina to Louisiana. A moderate amount, three to four inches in May, is noted in Texas, Tennessee, Kentucky, Kansas, Iowa, and Wisconsin; and four to six inches in May, a very good supply, in the seaboard States from New Jersey to North Carolina, and in Minnesota and Nebraska. The rain in May was mostly in the latter portion of the month.

The heat of April in the West was remarkable. Minnesota exhibited an excess of 10° over the mean temperature of April, 1869. The average increase of 7° is shown for the entire district west of Ohio, north of the Ohio River, and east of the Missouri. Ohio and Kentucky were only 2° warmer, while Tennessee and the Gulf Coast States were cooler than last year by about 2°. In the rainy district south of New York and north of South Carolina, the mean temperature was about the same as last year; while in New England and New York it was higher—in New York by 4°. In May nearly the same excess above the mean tem-

perature of the preceding May is observed through out the West, the greatest difference being observed in Michigan. In the New England States, with the exception of Massachusetts, the temperature is somewhat higher, and in New York 4° higher. In the other Atlantic States, and in the cotton States, the temperature of May has also been higher by about 4°.

Future returns will reveal the truth or falsity of predictions of the weatherwise that the present will be a season of unusual heat and drought.

The following is a comparison of the mean temperature and rain-fall of April and May compared with those months of last year:

STATES.	APRIL.				MAY.			
	1869.		1870.		1869.		1870.	
	Mean temp.	Rain.	Mean temp.	Rain.	Mean temp.	Rain.	Mean temp.	Rain.
Maine	41.1	2.57	44.1	4.58	53.2	4.52	54.0	1.80
New Hampshire	41.4	1.73	45.5	3.78	54.9	3.52	55.6	2.03
Vermont	39.9	1.48	45.2	2.69	54.2	3.72	56.4	1.48
Massachusetts	45.6	2.58	46.4	5.71	61.2	6.22	57.2	2.33
Rhode Island	46.7	1.94	.....	.....	54.6	6.04	.....	.....
Connecticut	46.4	2.04	48.3	4.63	55.9	5.68	59.4	2.08
New York	44.4	2.15	48.0	3.03	54.4	3.56	61.7	2.05
New Jersey	46.4	1.55	51.4	5.58	58.7	4.54	62.5	5.10
Pennsylvania	48.7	2.04	50.8	4.61	57.8	4.84	62.5	4.31
Maryland	53.9	2.54	53.4	5.58	61.6	4.93	64.8	4.96
District of Columbia	53.8	2.08	53.8	3.70	.....	.....	64.5	4.70
Virginia	54.9	2.46	54.4	4.68	60.9	5.89	65.5	5.02
West Virginia	51.4	1.90	.....	.....	60.4	2.00	.....	.....
North Carolina	58.9	2.96	57.0	3.04	63.8	4.58	66.1	6.14
South Carolina	61.5	2.98	63.7	2.74	67.8	1.19	72.3	2.70
Georgia	62.1	5.17	60.3	1.75	67.2	2.67	70.3	1.09
Alabama	62.7	8.39	61.5	2.38	69.7	1.69	73.4	1.04
Florida	69.0	3.36	66.7	2.15	72.1	1.11	76.9	1.40
Texas	66.6	3.76	67.7	4.85	73.9	3.45	75.2	3.33
Louisiana	65.5	.....	64.9	3.75	70.0	.....	75.5	1.90
Mississippi	63.7	11.43	61.1	4.15	70.4	1.77	71.8	2.44
Tennessee	57.4	5.96	56.4	3.39	64.0	3.00	67.8	3.92
Kentucky	53.5	5.32	55.2	3.46	62.5	2.70	67.6	3.98
Ohio	49.2	2.95	51.7	2.24	59.4	6.49	67.1	1.77
Michigan	40.9	3.05	48.7	2.50	52.5	3.58	61.2	2.13
Indiana	46.2	5.06	54.0	2.21	59.6	6.39	66.2	1.61
Illinois	46.1	3.92	53.2	1.48	59.4	5.48	65.8	1.60
Wisconsin	41.1	3.99	48.8	0.79	53.9	5.00	62.4	3.45
Minnesota	40.7	1.32	50.0	0.85	57.8	2.28	65.1	4.24
Iowa	44.7	2.66	51.1	0.63	59.1	4.58	65.7	3.18
Missouri	54.1	3.62	56.0	1.88	63.6	4.53	68.1	2.20
Kansas	52.1	3.19	56.2	1.56	62.7	4.46	68.9	3.39
Nebraska	48.5	2.14	53.3	1.74	61.9	4.02	66.3	5.31
Utah	43.1	.....	.....	.....	57.6	.....	.....	.....
California	60.5	1.77	57.4	1.87	62.7	0.54	65.9	1.10
Montana Territory	53.1	2.95	.....	.....	.....	.....	.....	.....
Washington Territory	51.0	5.64	.....	.....	.....	.....	.....	.....

WHEAT.

The estimates of acreage, compared with the area of 1869, is as follows: Reduction in winter wheat, in New Hampshire, 1 per cent.; Vermont 3, Massachusetts 4, New York 4, Maryland 10, South Carolina 1, Georgia 1, Alabama 6, Mississippi 20, Texas 6, Arkansas 2, Missouri 7, Illinois 15, Indiana 6, Ohio 4, Michigan 5, Wisconsin 5, Iowa 10. In spring wheat, Vermont 2, Massachusetts 5, New York 3, Pennsylvania 1, Missouri 3, Illinois 18, Indiana 20, Ohio 7, Michigan 1, Wisconsin 8, Iowa 8, Nebraska 3, Oregon 7. Increase in winter wheat: New Jersey 3, North Carolina 5, West Virginia 8, Kentucky 2, Minnesota 2, Kansas 17, Nebraska 25, California 5. The following States report no change

in acreage of winter wheat: Connecticut, Pennsylvania, Delaware, Virginia, Tennessee, Oregon. Increase in spring wheat: Maine 2, New Hampshire 4, Minnesota 2, Kansas 14, California 5. The average decrease throughout the country is placed at 930,000 acres, or nearly 5 per cent.

The following States report conditions of winter grain above an average: New Hampshire, New Jersey, Delaware, Virginia, North Carolina, Georgia, Alabama, Mississippi, Tennessee, West Virginia, Kentucky, Minnesota, Nebraska, and Oregon. The percentage of reduction in leading States reporting unfavorably is as follows: Illinois 15, Indiana 13, Ohio 13, Michigan 24, Iowa 11, Missouri 16, Kansas 6, California 8, New York 10, Pennsylvania 6, Texas 3. In spring wheat, the States above an average are Maine, New Hampshire, Pennsylvania, West Virginia, and Minnesota; of those below, the principal are, Illinois 9 per cent., Missouri 15, Indiana 14, Ohio 10, Michigan 12, Wisconsin 7, Iowa 2, Nebraska 4, California 20.

The superiority of early-sown winter-wheat, manifested at the opening of spring, is fully maintained to the present time. In deep and mellow soils, notwithstanding a lack of rain and a mean temperature unusually high, it has a vigorous appearance, and if the straw is shorter than usual, the head is plump and well filled. In some poor soils, where the surface is as hard as a roadway, plants stand thin, with short straw, and heads irregularly formed. Such is the case in many places in the Ohio Valley, and to some extent in the Gulf States. Throughout the dry sections the straw is shorter than usual. Fields seeded with the drill uniformly appear better than those sown broadcast. Where the plant has succumbed to freezing in winter or drought in spring it has generally been, except in very wet or very poor locations, upon land roughly or carelessly prepared.

Among the diseases and casualties reported, rust has had a very limited range; hail storms have caused damage in the Ohio Valley; driving rains have beaten down some fields in Virginia and North Carolina; Utah has been ravaged by grasshoppers; and in Contra Costa County, California, squirrels have taken wheat "by the acre daily," until public meetings have been called to repel the invaders.

COTTON.

The cotton-growers seem determined this year to reduce the price to fifteen cents, with every prospect of doing it. The acreage is materially increased in every State, while that of wheat (and probably of corn, though the county estimates of the entire country do not come in till July 1) has decreased. If neglect of all other interests can only be cured by cheap cotton, the sooner the reduction comes the better. The condition of the growing crop in North Carolina is good; in South Carolina it is looking well, except that some complaint of bad stands is made; in Georgia it is late, and smaller than usual from effects of a drought of five weeks which terminated May 25, but is growing vigorously now; the dry term was shorter in Florida and Alabama, and cotton is generally in good condition; reports from Mississippi are still more favorable; in Tensas Parish, Louisiana, where the greatest cotton yield of 1869 was made, the condition of the crop is twenty per cent. better than last year, and the acreage is increased one-fifth; from Texas come reports of a backward spring, with cotton late but thrifty and promising; and no State makes more favorable returns than Arkansas. The average condition of cotton is better than last year at this time—a fact desirable and gratifying in itself, but of no controlling force in determining the

ultimate result. Last season was unpropitious to August, and afterward favorable to an almost unexampled degree, a tenth of the crop being due to the extreme length and propitious character of the autumnal season. The acreage of sea-island cotton in Texas has been increased.

CORN.

The returns relative to corn, though desultory and partial, indicate an average condition. Systematic and complete data for all the States, up to July 1, will be given in the next report.

BARLEY.

Winter barley has nearly the same breadth as last year; the spring sowing has been increased. Its condition is fine in the States west of the Mississippi, except Missouri and California, but is subject to the same reduction as wheat in the Ohio Valley.

OATS.

There has been everywhere an increase of acreage. The condition of this crop is superior on the Atlantic coast from Maine to North Carolina, with the exception of Massachusetts and New York; in the dry sections of the West and South it is unpromising.

GRASSES.

The grasses are generally flourishing on the Atlantic coast, the Alleghanian range into Tennessee, and in Minnesota, Iowa, and Nebraska; elsewhere below an average. Clover, in a less marked degree, is thriving in the same sections. It is more sown than usual, and is reported favorably in Mississippi and Alabama, and some other southern States.

FRUITS.

The promise is very general for an abundant supply of apples, pears, peaches, and other fruits, especially in the New England and in the middle States.

Frost, in some portions of the West, and in some of the southern States, has injured the peach crop, but Kentucky, Illinois, and Michigan report more than an average prospect. A full crop of peaches, with the aid of young orchards coming into bearing, which will give fruit of superior quality, may be expected in Maryland and Delaware. Some complaint exists of the blossoms blighting in Virginia. Frost injured peaches somewhat in North Carolina; and in the Gulf coast States frosts in February and March were very destructive. In Missouri and Illinois great losses were incurred by frosts in April, amounting to nearly total destruction at several points. In parts of Illinois, however, a fair crop will be gathered; and a fine crop may be expected in Michigan. The peach regions mostly depended on for market supplies will harvest fully an average crop.

It is a great apple year in New England; even in Aroostook, Maine, where the trees in blossom were covered with ice, moderate weather, without sunshine, saved the fruit. The amount of bloom was also extraordinary in New York, and the promise of a fine crop is excellent, as in all the middle States, with some drawbacks from heavy rains and falling of blossoms in Pennsylvania and Maryland. In Virginia the same difficulty exists in an intensified form, and in many places the twigs on the extreme ends of the branches are dying from some unknown cause. The reports from West Virginia and Kentucky are variable, from

the best crop ever known to failure from frost. In Michigan favorable reports greatly predominate. In the Ohio Valley, Missouri, and Kansas, the frost which killed peaches also injured the apples greatly.

The pear crop, comparatively limited in area and quantity as it always is, promises to average quite favorably with former years. Some correspondents claim that the September gale on the New England coast facilitated fruiting; and one instance is given of a pear tree in Bristol, Massachusetts, which was nearly torn up by the roots, and bloomed in the spring profusely, and is maturing a fine crop of fruit. In parts of Pennsylvania pear blossoms were less abundant than the bloom of other fruits. In Luzerne County pear orchards are rapidly increasing, and this fruit is becoming a staple. Pears are a failure in St. Clair County, Michigan, while apples will be abundant.

The small fruits have been comparatively abundant. Immense quantities were sent to Chicago and other cities from Southern Illinois, and very low prices were reached. The San Francisco market was very abundantly supplied; twenty tons per day were sent from one county, Contra Costa, and sold at eight to twelve cents per quart at retail. In Washington and Baltimore similar rates prevailed in the height of the season.

Table showing the condition of the crops, &c., on the 1st day of June, 1870.

States.	WINTER WHEAT.		WINTER RYE.		WINTER BARLEY.		SPRING WHEAT.		SPRING BARLEY.	
	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Acreage sown this spring compared with last.	Average condition June 1.	Acreage sown this spring compared with last.	Average condition June 1.
Maine	.....	.....	9.8	10.4	.....	.....	10.2	10.3	10	10.3
New Hampshire	9.9	10.2	9.8	10.1	.....	.....	10.4	10.2	9.7	10.3
Vermont	9.7	9.8	9.8	9.2	.....	.....	9.8	9.7	9.8	9.8
Massachusetts	9.6	9.7	9.6	9.3	.....	.....	9.5	9	10.2	9.8
Rhode Island	.....	.....	10.3	10.6	.....	.....	.....	.....	10	10
Connecticut	10	9	10.5	10.2	.....	.....	10	9.5	10	9.5
New York	9.6	9	9.7	9	10	9.3	9.7	9.2	9.7	9.3
New Jersey	10.3	10.1	10	9.7	.....	.....	.....	.....	.....	.....
Pennsylvania	10	9.4	9.6	9	9.7	9.3	9.9	10.1	9.4	10.1
Delaware	10	11	10	10	.....	.....	.....	.....	.....	.....
Maryland	9	9	10	9.8	.....	.....	.....	.....	.....	.....
Virginia	10	10.6	9.8	9.9	.....	.....	.....	.....	.....	.....
North Carolina	10.5	11.2	9.8	10	10	10.2	.....	.....	.....	.....
South Carolina	9.9	9.7	9.4	10.1	10	9.3	.....	.....	.....	.....
Georgia	9.9	10.7	9.7	10.5	10.2	10	.....	.....	.....	.....
Florida	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alabama	9.4	10.8	10	10.2	8.6	9.6	.....	.....	.....	.....
Mississippi	8	10.6	9	10.3	.....	.....	.....	.....	.....	.....
Louisiana	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Texas	9.4	9.7	10.4	9.2	12	10.2	8.5	8.7	.....	.....
Arkansas	9.8	9.9	10.1	10.2	9.6	9.6	.....	.....	.....	.....
Tennessee	10	10.9	9.7	10.5	9.8	10.5	.....	.....	.....	.....
West Virginia	10.8	10.5	9.4	10.3	9.7	10	10	10.3	12.5	10.5
Kentucky	10.2	10.6	9.4	10	10.3	10	10	9.3	11	9.5
Missouri	9.3	8.4	9.3	8.5	9.6	9	9.7	8.5	10.2	8
Illinois	8.5	8.5	9	8.2	9.8	8.8	8.2	9.1	9.1	8.9
Indiana	9.4	8.7	9.2	8.9	10.1	9.1	8	8.6	9.5	8.1
Ohio	9.6	8.7	9.3	8.7	9	8.1	9.3	9.0	9.4	8.8
Michigan	9.5	7.6	8.3	8.8	9.7	9	9.9	9.8	10.1	9.1
Wisconsin	9.5	9.2	9.7	8.6	9.6	9.9	9.2	9.3	10.3	9.3
Minnesota	10.2	10.3	10	10.6	.....	.....	10.2	11	10.5	10.3
Iowa	9	8.9	9.4	9.2	9.2	7.7	9.2	9.8	10.5	10.1
Kansas	11.7	9.4	10.6	9.9	11.6	9.6	11.4	8	11.1	8.6
Nebraska	12.5	10.3	10.2	10.3	10	9.5	9.7	9.6	10.6	10
California	10.5	9.2	11.3	9	10.3	8.6	10.5	8	10.7	8.7
Oregon	10	10.4	9.3	10.3	9.3	9.8	9.3	9.6	9.5	9.5

Condition of the crops, &c.—Continued.

States.	OATS.		CLOVER.		SPRING PASTURE.	MAPLE SUGAR AND MOLASSES.		SHEEP.	
	Acreage compared with last year.	Average condition June 1.	Acreage compared with last year.	Average condition June 1.	Average condition June 1.	Amount of sugar made this year compared with last.	Amount of molasses made this year compared with last.	How many *hundredths* of the tot l number of sheep have been lost by disease or other casualty.	How many *hundredths* of the total number of lambs dropped this spring have died.
Maine	10.3	10.5	10	9.8	10.6	8.6	8.6	3.2	6.5
New Hampshire	10.5	10.2	10.3	10.6	10.2	5.3	5.3	3.5	8.7
Vermont	10.4	10	10	9.3	9.7	6.2	6.3	2.7	8
Massachusetts	10.1	9.8	10.1	10.5	10	3.2	3.2	3	6.8
Rhode Island	10	10.3	10	10.6	11	.....	.....	5.3	8
Connecticut	10.5	10.2	10	9.7	10.5	.....	.....	2.6	8.6
New York	10.2	9.6	9.8	9.7	10.2	6.2	6.2	4.2	9
New Jersey	10.5	10.3	10.3	10.5	11	.....	.....	4.6	6.1
Pennsylvania	10.5	10.4	10	10.4	10.8	7.8	7.8	4.3	9.3
Delaware	10	10	11	11.5	10.5	.....	.....	3	2.5
Maryland	10.3	10.2	9.8	10.6	10.7	.....	.....	5	7.3
Virginia	10.3	10.2	10.4	10.6	11	11.5	11.1	5.5	9.1
North Carolina	10.4	9.9	11.5	10.7	10.6	.....	.....	7.3	7.2
South Carolina	11.5	7.3	10.5	7.3	8.2	.....	.....	5	9.5
Georgia	10.4	8	11.5	9.8	8.4	.....	.....	6.2	6.5
Florida	10.5	10.4	.....	.....	5.6	.....	.....	7	10
Alabama	10.8	8	10.6	10.5	7.6	.....	.....	7.7	5
Mississippi	10.8	10.4	10.8	10.8	9.9	.....	.....	8.5	17.8
Louisiana	10.5	9	.....	.....	9.7	.....	.....	8.1	8.8
Texas	10.6	8.8	.....	.....	9.7	.....	.....	7.5	11.2
Arkansas	10.4	9	12	9	9.5	.....	.....	8.6	12
Tennessee	10.2	9.7	11.5	11	10.7	9.3	9.6	5.4	9.1
West Virginia	10.5	10.3	10.6	11	10.2	9.9	9	5.5	11.6
Kentucky	10.3	8.8	10.4	10.4	10.6	11.5	11.2	5.4	8.3
Missouri	10.6	8.1	10.9	9	8.7	8.5	8.5	8.5	9
Illinois	10.5	9.3	10	8.9	9.2	9.3	9	7.5	8
Indiana	10.6	8.5	10.4	9.1	8.9	10.2	10.4	8.2	13.1
Ohio	10.2	8.7	10.1	9.5	9.9	9.4	9.3	5.6	9.5
Michigan	10.5	9.3	10	8.5	9.7	6	5.9	6.3	10.6
Wisconsin	10.6	9.3	10.7	8.9	9.9	5.3	5.7	5.5	10.3
Minnesota	12	10.5	10.9	10.7	11.5	7	7.7	4.2	6.3
Iowa	10.3	10.1	10.6	9.5	10.2	6.7	7	6.4	8.5
Kansas	13.1	7.8	12.5	10.1	9.8	.....	.....	6	8.6
Nebraska	11.6	9.6	11	10	10.5	.....	.....	4.5	5.5
California	10	8.8	8.8	9.3	8.7	.....	.....	5.8	11.8
Oregon	10	9.8	10.6	10.1	12	.....	.....	4.8	7

Condition of the crops, &c.—Continued.

States.	WOOL.		COWS AND CALVES.		APPLES.		PEACHES.		PEARS.	
	How many hundredths of last year's wool clip remain in the county.	Date of annual shearing in the county.	Average condition of cows this spring.	Number of calves dropped compared with average of former years.	Average amount of bloom this spring.	Average condition of the crop June 1.	Average amount of bloom this spring.	Average condition of the crop June 1.	Average amount of bloom this spring.	Average condition of the crop June 1.
Maine	4.2	May 26	10.6	10.4	10.5	10.8	.....	.....	10.8	11
New Hampshire	8	June 9	10.2	10.1	11.7	11.5	12.2	11.5	11.5	11
Vermont	15	June 8	10.8	10.7	12.6	11.3	.....	.....	10.6	11.4
Massachusetts	7.6	June 13	10.6	9.9	12.5	11.5	12	11.8	11.3	11.5
Rhode Island	21.6	June 9	10.3	10	11.3	11.6	10.6	10.6	10	10.6
Connecticut	21.5	June 5	10.7	10.7	14	11.7	10.5	10	11	9.7
New York	5.1	June 11	10	10.2	12	11.3	11.6	10.6	10.3	10.1
New Jersey	8	May 26	10.2	10.2	12.4	11.8	11.5	11.3	11.5	10.6
Pennsylvania	4.5	May 20	10.5	10.3	10.8	10 6	10	10.2	9.1	9.8
Delaware	10	May 28	9.5	11	11	8	12	6.0	11.5	7.5
Maryland	4.3	May 18	9.9	9.7	10.8	10.9	11	10.4	10.7	9.6
Virginia	3.4	May 19	10.3	10.3	12	11.5	10.6	10.1	10.5	9.9
North Carolina	5.7	May 18	10.1	10.3	11.5	11.3	11	10.3	10.4	9.3
South Carolina	12	May 3 Sept. 1	9.5	9.6	11.5	11	9.1	6.7	8	9.5
Georgia	8	May 2 Sept. 15	8.8	9.3	10.3	9.5	9.3	6.6	9.7	8.5
Florida	17	May 7	8	6.6	.....	.....	10	9.2	.....	.....
Alabama	12	April 23 Aug. 15	9.3	9.7	9.7	7.2	9.6	3	9.2	6.4
Mississippi	12	April 23 Sept. 10	10.3	10.2	9.2	7	7.7	3.1	9	6.2
Louisiana	35	April 21	10.1	10.4	9.7	9.3	9.6	4.2	10	8.2
Texas	5.3	April 17 Oct. 15	11	10.2	7.5	8	8.5	1.7	7.3	2.7
Arkansas	11.5	April 22 Sept. 15	10.2	9.9	7.3	6.2	7	2.5	7.7	5.2
Tennessee	9.5	May 2	9.2	10.3	10.4	9.4	8.5	7.1	9	7.5
West Virginia	2.7	May 12	10.2	10.2	9.1	9.3	8.7	9.7	8	8.9
Kentucky	1.7	May 8	10.4	10.2	11.5	10.7	11	10.9	10.2	10.2
Missouri	7.7	April 30	10.4	10.1	8.8	5.3	9.6	5.1	9.4	4.6
Illinois	6.7	May 21	10.1	9.8	10.5	8.2	11.5	10.1	9.4	7.4
Indiana	8.3	May 19	9.5	10	8.3	7.8	9.1	9	8.4	8.2
Ohio	4.6	June 6	10.2	10	10.2	9.5	9.4	9.1	8.6	8.2
Michigan	5.4	June 10	10	10.5	10.7	10.4	10.5	11.2	8.6	9.2
Wisconsin	5.5	June 4	10.4	11	9.6	8.6	.....	.....	9.9	7.9
Minnesota	14.6	June 1	10.6	11.7	13.1	11.9	.....	.....	.....	.....
Iowa	5.4	June 2	10.7	10.7	10.4	8	11.2	10.6	9.4	7.6
Kansas	8	May 19	10.6	11.8	12.6	5.7	10.8	7.7	9.3	4.5
Nebraska	5.5	May 22	10.9	11.5	10.4	5.7	8.2	6.8	9.6	7
California	1	April 17 Sept. 21	10.6	10.3	10.8	10	9.8	8.8	10.4	9.2
Oregon	1.6	May 15	11.5	10.1	8.7	9.8	9.6	9.8	9.2	9.6

WINTER GRAINS.

The following extracts, apart from the tables, do not give an average view of the condition of these crops, many of them being exceptional, descriptive of the local casualties of the season.

Norfolk County, Mass.—There is an increased breadth of winter wheat owing to a desire to experiment with the crop. The condition of all cereals is fully up to that of last year.

Livingston County, N. Y.—The spring was early, and vegetation is two weeks earlier than in any season for twenty years. Early-sown winter wheat is looking first-rate, but the dry weather is hard on the late-sown.

Rensselaer County, N. Y.—The dry, cold weather is affecting the grass

and pasture. Rye was winter-killed on wet land; some of it was plowed up and sown to oats.

Erie County, N. Y.—Wheat looks poor and small. Winter wheat taller than last season at this date, but not so heavy on the ground. All crops suffering for rain.

Genesee County N. Y.—Winter wheat was sown late in the mud, and looks small, and is in want of rain. Spring grains have not suffered much.

Niagara County, N. Y.—About twenty per cent. decrease of acreage of winter wheat, and it wintered badly, so that some fields have been plowed up; spring grains were all sown in good time and are promising, but will need rain soon.

Saratoga County, N. Y.—Winter wheat is not as promising as usual, on account of the warm, dry weather.

Washington County, N. Y.—Winter grain has seldom looked worse at this season of the year. Have had little rain this spring.

Warren County, N. Y.—Winter wheat and rye injured by the ice. The ground is very dry, hence oats and pasture are poor.

Steuben County, N. Y.—Winter wheat does not look well; many bare spots and the growth is thin. Spring crops unusually forward.

Monroe County, N. Y.—Very dry; with rain soon grain and grass may be brought up to nearly an average, but at present the prospect is not encouraging.

Onondaga County, N. Y.—Winter wheat injured by winter-killing and suffering from drought. Vegetation earlier than usual; wheat heads in May; unless rain comes soon crops will fall short.

Mercer County, N. Y.—Winter wheat, as a general thing, is not promising. It did not come up well on account of dry weather at seeding time.

Burlington County, N. J.—The season has been unusually favorable for grass and for winter grain and oats, save on low ground. Two violent hail storms have passed through the county during the past month, destroying a great deal of fruit and grain, and some farmers have plowed up their wheat fields and planted corn.

Cumberland County, N. J.—Wheat has made an extraordinary growth.

Ocean County, N. J.—Great improvement in the rye and wheat since warm weather set in. Some fields look remarkably well; others are jagged and irregular, especially the rye.

Hunterdon County, N. J.—Wheat and rye have much improved since March.

Adams County, Pa.—Owing to the favorable season thus far, the condition of winter wheat and rye has very much improved since the last report.

Dauphin County, Pa.—Owing to the wet weather, some of the best fields of wheat are going down, and are not likely to rise sufficiently to avoid injury.

Cambria County, Pa.—Winter grain poor; much thrown out by the frost. Rye very good in some sections.

Bradford County, Pa.—Good prospect for winter wheat.

Armstrong County, Pa.—Wheat did not promise well in fall and winter, but the favorable spring has much improved the crop. Rye not promising.

Northumberland County, Pa.—In March and early April winter wheat and clover and grass were rather thin and unpromising, but the favorable spring has produced a favorable change, and an excellent harvest of grain and hay is promised.

Columbia County, Pa.—A severe hail storm on May 21 did much

damage to the crops. Some farmers who expected fair yields of wheat and rye will not get more than the seed sown; fine fields are being plowed up for other crops. The heads of bearded wheat have come out very much doubled up and crippled, and it is feared that they will not fill. Much of the wheat sown on low and spongy land is very poor, and in many places very much affected by the fly.

Perry County, Pa.—Wheat is a fair average, the favorable weather having materially improved the prospect. The wet weather may injure the crop.

Berks County, Pa.—Wheat much improved of late; but excessive rain has already caused much to lodge.

Indiana County, Pa.—There is no increase in the wheat acreage. The price is so low that it will not pay to raise wheat with hired labor; therefore, farmers have put in only what they can themselves handle.

Franklin County, Pa.—Grain excellent.

Queen Anne County, Md.—But little fallow was broken, and a limited amount of fertilizers used. Under the circumstances, wheat looks remarkably well, but the crop cannot exceed three-fourths of last year's crop.

Kent County, Md.—The dry fall of 1869 accounts for less fallow land plowed; hence, less wheat was seeded. The spring has been favorable for wheat.

Baltimore County, Md.—The wheat crop has recruited very much since last report. Rye is poor. The spring has been remarkably wet.

Montgomery County, Md.—More than the usual proportion of wheat was winter-killed, and the crop looked badly all winter, but it has improved rapidly since it began to grow in the spring. Some fields were injured by hail on the 10th of May.

Cecil County, Md.—Wheat was generally sown late, and was much injured in the latter part of the winter, yet the favorable spring has brought much of it above an average in condition. Where the land is low, however, the condition is considerably below an average.

Harford County, Md.—Wheat is growing very fast. Some fields are beginning to fall already, and may be materially injured if the rains continue.

Carroll County, Md.—Wheat and rye were never more flourishing.

Howard County, Md.—The wheat prospect is favorable.

Stafford County, Va.—Owing to the heavy rains, the wheat is not so good as expected.

Fauquier County, Va.—The wheat crop promises well, if not injured by the wet and the hot sun following.

Gloucester County, Va.—The excessive rains threaten serious disaster to wheat; already some farmers report the scab, and others complain of lodging on low grounds from overflow.

Spottsylvania County, Va.—The wheat crop is very promising, and the harvest will be at least five days earlier than for many years.

King George County, Va.—Wheat promises a plentiful yield, but is now in jeopardy from excessive rains. Rye promises well.

Amelia County, Va.—Wheat injured by heavy storm; much of it is flat upon the ground, but with bright sunshine most of it may rise again and make fair grain. The critical stage for wheat here is from the 8th to the 20th of June.

Buckingham County, Va.—The wheat crop looks well in the field, but the weather is wet and sultry, and the rust has already appeared in some fields.

Henrico County, Va.—Wheat materially damaged by recent heavy rains. No more than an average crop can now be expected.

Nelson County, Va.—Wheat, though put in roughly last fall, has improved rapidly, and promises much more than an average yield, if it can escape rust and storms; but for a week past, there have been frequent and heavy rains, with considerable wind, lodging much of the heavy wheat on bottom land, and the crop is, therefore, in a precarious condition, and can hardly escape the rust.

Albemarle County, Va.—The continued rain and wind have injured the wheat, and much of it is down.

Fairfax County, Va.—The winter was unfavorable for wheat, but the favorable spring has brought it up to an average. Drilled wheat is invariably better than that sown broadcast.

Chesterfield County, Va.—A very large acreage of winter wheat, and it is remarkably well filled, but the rust is apprehended, owing to the wet weather.

Smyth County, Va.—Wheat is heading, and is very fine.

Dinwiddie County, Va.—Wheat promises a larger crop than for three years past; the straw is long and the heads good.

Pulaski County, Va.—Wheat has improved very rapidly since the last report, and the crop is promising.

Amelia County, Va.—An increased wheat acreage in this county, despite adverse circumstances in the fall.

Stanly County, N. C.—Up to the 24th ultimo nothing could be more promising than the condition of the small grains, and good crops may yet be gathered despite the damp, rainy weather which has since set in. None of the usual disasters entailed on cereal crops by prolonged rainy weather have yet been perceived.

Davie County, N. C.—Rust is appearing on the wheat, which may ruin it.

Iredell County, N. C.—Wheat is more promising in this county than for a number of years.

Rockingham County, N. C.—If the present prospect be realized the wheat crop of this county will exceed last year's crop twenty-five to thirty per cent. The area sown is greater than ever before.

Franklin County, N. C.—The wheat crop, unusually promising up to the 26th ultimo, has been damaged by the severe storms; the extent is not yet known.

Guilford County, N. C.—The best prospect for winter wheat for several years.

Catawba County, N. C.—Never a better prospect for wheat.

Chowan County, N. C.—Wheat promises an abundant yield.

Alamance County, N. C.—The wheat crop promises well; if it fills well the yield will be twenty per cent. or more over that of last year. Heavy freshets have swept over a large area of wheat; the damage has not yet been ascertained.

Rutherford County, N. C.—Winter wheat promises better than for many years.

Lexington County, S. C.—The yield of wheat will certainly be above an average. The crop is out of danger of rust or smut.

Newbury County, S. C.—A drought of five weeks has injured wheat, reducing the crop one-third.

Richland County, S. C.—Wheat having a good growth was not much injured by the drought.

Spartanburg County, S. C.—Wheat is very promising, but the rains of the past few days cause apprehensions of rust.

Abbeville County, S. C.—The spring has been dry, which is favorable to the yield of wheat. The straw is short, but the heads are better filled than usual, and the crop is free from disease. It is now about ripe, and the rains have set in, and the crop may yet be injured seriously.

Greenville County, S. C.—May has been unusually dry, and it is feared that the grain crop will be light. The writer's Red Bearded Mediterranean and the Tappahannock look as fine as he ever saw them in Pennsylvania. He soaked the seed in salt and water, and dusted with lime before sowing, and top-dressed in winter with barn-yard manure.

York County, S. C.—Only half a crop of wheat can be expected, owing to the drought of seven weeks.

Lumpkin County, Ga.—Wheat and rye give promise of a very abundant harvest. The acreage in wheat is fully fifty per cent. greater than that of last year, and the yield will be fifty per cent. above last year, unless there be disaster in the next fortnight.

Clayton County, Ga.—Wheat generally promising—especially the Tappahannock, which bids fair to excel all other varieties grown here.

Chattanooga County, Ga.—Wheat on bottom land, although killed to some extent by cold, promises over an average crop; that on upland is below the average.

Murray County, Ga.—The season has been favorable for wheat.

Crawford County, Ga.—Wheat promising. The cold spring injured all crops but wheat.

Forsyth County, Ga.—Wheat is good, though injured somewhat by the seven weeks' drought.

Gordon County, Ga.—Wheat is extra good.

Pulaski County, Ga.—Wheat is excellent for this section. The Tappahannock wheat, received from the Department, is the best variety grown here.

Schley County, Ga.—Wheat crop much injured by birds—perhaps one-sixth destroyed.

Cave Spring, Ga.—Crops look well—wheat being harvested—a good yield.

Randolph County, Ala.—Wheat is in more than average condition.

Attala County, Miss.—Wheat is in good condition, but the acreage is only one-third that of former years.

Williamson County, Texas.—The raising of small grain has been nearly abandoned, and increased acreage of cotton has been substituted.

Bexar County, Texas.—The wheat harvest is nearly concluded. Although the acreage is less than that of last year, the quality of the crop is better, and the yield per acre is judged to be greater.

Red River County, Texas.—The spring has been remarkably cool, and wheat is ten days later than it was last year, but is very fine. The crop is one-tenth less than an average, owing to damage by rice birds.

Upshur County, Texas.—Spring wheat is in promising condition, and the acreage is about the same as last year. Winter wheat is in average condition, but continues to decline in acreage.

Grayson County, Texas.—The wheat crop was seriously injured April 10, by a severe hail-storm which traversed the county from east to west. Several good wheat fields were entirely destroyed, and the total loss will amount to 10,000 bushels.

Ellis County, Texas.—Wheat is now mostly cut and shocked; the harvest is much later than usual.

Independence County, Ark.—Wheat was planted in good season and with unusual care, but has given little promise. Harvest is at hand,

and there will certainly be less than half a crop. An unusual drought has prevailed for the last three months.

Sebastian County, Ark.—The spring has been unusually dry, and wheat (as well as rye and oats) has been cut short.

Yell County, Ark.—Winter wheat was injured by the cold, dry spring, but it has greatly improved under recent rains.

Meigs County, Tenn.—Wheat has looked finely, till within a very few days; but rust is making its appearance.

Polk County Tenn.—The probability is that there will be an excellent crop. Orleans and Tappahannock varieties will be ready to harvest June 5.

Henry County, Tenn.—The wheat crop will probably be about an average one.

Sevier County, Tenn.—The season has been favorable until the last week; but crops are now suffering from heavy rains, and it is feared that much damage will be done to cereals.

Hawkins County, Tenn.—Winter wheat generally presents a good stand, with abundant straw of good length; but the heads are forming very irregularly, and are mostly short; it is feared that the crop will be greatly damaged by the heavy rains which have fallen within the last ten days.

Monroe County, Tenn.—Winter wheat is looking finely, although recent heavy rains have caused considerable lodging.

Montgomery County, Tenn.—The wheat crop was never more promising than now; but there has been some damage by a recent heavy rain, especially in the valleys, where the wheat has been washed down by the storm.

Knox County, Tenn.—The prospect is very promising, and a large harvest is expected.

Clinton County, Ky.—Wheat is very promising.

Greenup County, Ky.—The drought has affected the growth of crops considerably, especially wheat.

Hardin County, Ky.—Wheat is injured by the fly, about two-tenths.

Henry County, Ky.—A sudden and unlooked for blight has fallen upon many of the wheat-fields of this county; appearances indicating the presence of the fly. It is feared that crops thus affected will be entirely cut off.

Laurel County, Ky.—Wheat and corn look well.

Livingston County, Ky.—Wheat has suffered much for want of rain.

McCracken County, Ky.—Wheat promises much better than it did six weeks ago, and more is sown than at first supposed.

Meade County, Ky.—The wheat crop so far is very promising, though the wheat was somewhat injured by wind and rain.

Oldham County, Ky.—Wheat stood the winter well. Not so much sown as usual.

Spencer County, Ky.—Wheat is affected by smut and rust. The crop will probably be inferior in quality, and short in quantity.

Trimble County, Ky.—Wheat looks very well, and if it escapes rust, there will be a fine yield.

Braxton County, W. Va.—Winter wheat at this date is very promising.

Brooke County, W. Va.—We have had a very wet winter and spring, on account of which winter wheat was greatly injured.

Harrison County, W. Va.—Wheat is looking well.

Hancock County, W. Va.—The spring has been unusually favorable to crops of all descriptions.

Jefferson County, W. Va.—Thus far the season has been a remarkably favorable one for all crops. Wheat, though in average condition, is not quite up to last season, when the crop was an exceptional one. Our Tappahannock wheat is about two weeks earlier than common bearded varieties.

Monroe County, W. Va.—Wheat looks very fine, and is very far advanced for the season.

Morgan County, W. Va.—The winter was uncommonly mild, and the spring has been the most favorable, to all sorts of crops, of any within my recollection.

Nicholas County, W. Va.—More wheat was sown than in any year since the war.

Preston County, W. Va.—Wheat, oats, corn, grass, and garden vegetables look well.

Butler County, Ohio.—Wheat has suffered great damage from drought.

Crawford County, Ohio.—Not more than a half a crop of wheat is expected.

Champaign County, Ohio.—Much of the wheat is heading out not over one foot high, and many acres will not be worth cutting.

Ashland County, Ohio.—There will be about an average crop of wheat.

Mercer County, Ohio.—Wheat was winter-killed to an alarming extent, and the present drought added makes the prospect very unfavorable.

St. Joseph County, Mich.—Wheat will suffer more than it has for years past, on account of the fly and the drought.

Montcalm County, Mich.—About one-third of the winter wheat is killed.

Washtenaw County, Mich.—The yield of wheat will not come up to that of the last two years,

Van Buren County, Mich.—Wheat is heading out in little short heads, ten to fifteen inches from the ground. Even good rains will not save it now or produce a good crop.

Antrim County, Mich.—Fall wheat is badly winter-killed, but is improving. Spring wheat looks well.

Macomb County, Mich.—Wheat was not sown in good season last fall, and the winter was unfavorable.

Brown County, Ind.—Wheat has headed out lower than usual; looked quite promising on the first of April; but on poor land it has not done well during the dry weather. On good land it looks well.

Floyd County, Ind.—Hail has done much damage to the wheat, and in some cases has totally destroyed the crop.

Hancock County, Ind.—As the season advances, the prospect for a good wheat crop improves.

Elkhart County, Ind.—Wheat promises well.

Randolph County, Ind.—The wheat crop will not average four-tenths.

Madison County, Ind.—Wheat will not average more than one-half a crop.

Johnson County, Ind.—Wheat is quite unpromising; thin on the ground and heading out very low. The ground on which it grows is as dry and hard as the highway.

Union County, Ind.—Farmers do not expect more than half a crop of wheat on account of injury by drought and grub-worms.

Noble County, Ind.—Wheat looks well.

Parke County, Ind.—The wheat crop will prove almost a total failure.

Martin County, Ind.—The drought has materially affected the prospect of a good wheat crop.

Kosciusko County, Ind.—Wheat is every day deteriorating on account of the drought.

Kankakee County, Ill.—Very little winter wheat sown.

St. Clair County, Ill.—The wheat crop is worse than for many years past; a great deal of it was plowed under, and the land put in corn.

Lake County, Ill.—The reduction of the price of wheat has caused many farmers to sow flax in its stead. More acres of flax have been sown this spring than of wheat.

Fayette County, Ill.—Wheat looks badly, but there will be a half crop or more.

Effingham County, Ill.—The fall wheat will not exceed half a crop; badly winter-killed.

Winnebago County, Ill.—Wheat is generally thin, on account of defective seed and dry weather.

Scott County, Ill.—Wheat will be short.

Greene County, Ill.—Wheat is heading out finely.

Mercer County, Ill.—Wheat will probably be a failure on account of the drought.

Madison County, Ill.—Wheat will probably be of first quality, but little, if any, above half an average in quantity.

Lawrence County, Ill.—Wheat heads are unusually large this season.

Williamson County, Ill.—The wheat crop will not equal in yield that of last year. The plants lack vigor.

Menard County, Ill.—Wheat has been seriously injured by the drought.

Boone County, Ill.—A decreased acreage of wheat.

Lee County, Ill.—Spring wheat has suffered seriously from drought.

Edgewood, Effingham County, Ill.—Wheat has come out a great deal, yet our yield cannot be half as large as last year's crop. There was less than half the acreage sown, and one-fourth of that amount has been plowed under and planted to spring grain. Late sowing and the severe winter weather were the causes.

Adair County, Mo.—Everything is suffering for rain.

Benton County, Mo.—The season is extraordinary—so very dry that at this date there is scarcely any hope of more than one-fourth of a crop of wheat.

Cass County, Mo.—Winter wheat is heading low.

Cole County, Mo.—We have had no rain to do any good through the month of May. Grain is heading out, and looking tolerably well where the ground was plowed deep and the grain drilled in; but if we miss our seasonable rains, we shall have empty ears in wheat, barley, and oats.

Dade County, Mo.—Wheat, oats, &c., were never so short.

Franklin County, Mo.—Wheat early sown will head well, with full grain; late sown is very unpromising.

Hickory County, Mo.—We have had the dryest May that has been known in the last fifteen years. Wheat, oats, grass, &c., are cut short.

Lincoln County, Mo.—No wheat on the prairie; the dry weather of the past month has cut the crop short in the timber.

Mercer County, Mo.—Wheat and corn, and small grain generally, look very well, having the best season there has been for eight years.

Moniteau County, Mo.—Wheat badly winter killed.

Montgomery County, Mo.—Wheat is cut short, and oats much injured.

Osage County, Mo.—The wheat crop in this section will not average a full crop; possibly, not more than two-thirds. All that was sown on high land was winter-killed.

Polk County, Mo.—The drought is so severe that unless we have rain soon our wheat and other grain crops will be ruined.

Ray County, Mo.—Crops have suffered very much for want of rain.

Stone County, Mo.—There will not be half a crop of small grain, such as wheat and rye, on account of the dry weather in April and May.

Vernon County, Mo.—Great want of rain; all crops wilting in the sun.

Washington County, Mo.—Wheat, oats, and grass crops suffering now for want of rain, and will be cut short if it does not come soon.

Jefferson County, Wis.—The unusually dry weather, lasting through May, has much damaged the small grain crops.

Monroe County, Wis.—Wheat was materially injured by the heavy snow of last winter.

Pierce County, Wis.—Wheat looks well.

Tama County, Iowa.—Wheat does not look as well as usual; but little was sown before April 1.

Wabash County, Minn.—Wheat looks well, although a great deal of spring plowing had to be done, which is not favorable to good crops.

Carver County, Minn.—The wheat crop is especially promising.

Faribault County, Minn.—The wheat crop on fall plowing looks well, while that sown on spring plowing is generally thin and late.

Goodhue County, Minn.—A decline in the acreage of spring wheat is noted in this county, consequent in part upon the increased attention given to grazing.

Franklin County, Kansas.—A few weeks of dry weather have modified the prospect of a good wheat crop.

Shawnee County, Kansas.—Dry weather and a late frost have nearly destroyed the wheat crop.

Coffey County, Kansas.—The dry weather in May has somewhat diminished the prospect for a heavy return of small grains. The winter wheat has straw sufficient to make a good crop, but the spring wheat in addition to its very short straw is generally very thin on the ground, on account of a heavy frost in April.

Leavenworth County, Kansas.—Fall wheat is very promising.

Clay County, Kansas.—Wheat in the south half of the county has suffered severely by drought, in the north half it is much better.

Linn County, Kansas.—Wheat will be very short, but well headed.

Dakota County, Neb.—Wheat looks better than usual. There is plenty of rain.

San Bernardino County, Cal.—The cereals are nearly a total failure on account of lack of rain, and hot north winds.

Beaver County, Utah.—The decrease of average condition of spring wheat is owing to the ravages of grasshoppers, which threaten a much greater loss than is indicated in the table.

Juab County, Utah.—Fall wheat was subjected to alternate freezing and thawing, the result being that many of the wheat roots have been killed. The grasshoppers are using up the crops fearfully.

San Pete County, Utah.—About nine-tenths of the grain crops utterly destroyed by grasshoppers.

Stanislaus County, Cal.—The return of wheat for this county and for the whole State will not amount to over one-half that of last year. Since the 1st of May, the grasshoppers have been committing ravages on the late sown grain, and wholly destroyed the crop in several localities in the county.

New Hanover County, N. C.—The cotton crop is in fine condition and promising.

Duplin County, N. C.—The young cotton was much damaged on some plantations by a severe hail-storm; the stand was injured to such an extent in places as to require plowing up and replanting. The crop is generally in fine order and promising.

Mecklenburg County, N. C.—Early planted cotton has made a good stand and is doing well. The late planted cotton has poor stands—just coming up.

Franklin County, N. C.—Cotton has been planted extensively, to the neglect of corn. The cotton prospect is favorable, but the correspondent thinks it would be better for the farmers if they could be impressed with the importance of raising at least enough grain for the home demand.

Chowan County, N. C.—Cotton acreage increased fifty per cent.; good stand; condition favorable.

Edgecombe County, N. C.—Excellent stand of cotton; with increased acreage of six to ten per cent.

Pasquotank County, N. C.—Three times as much cotton has been planted in this county this year as in any year since the war.

Bertie County, N. C.—Cotton looks remarkably well, with general satisfaction with the stand; one-third more planted than last year.

Newbury County, S. C.—A good stand of cotton and the crop is promising.

Richland County, S. C.—The cotton prospect is good; much better than at this date last year. The early planted is growing beautifully, and the late planted is all up. No complaints of the stand within the last ten days.

Williamsburg County, S. C.—Three weeks without rain. Late planting of cotton not yet up. Where early stands were secured the plant is promising.

Barnwell County, S. C.—Cotton looks badly; not more than five-eighths of a stand.

Baldwin County, Ga. —Cotton looks well. Planters are engaged in "chopping out."

Hancock County, Ga.—Cotton stand is good, but late—showing every day. No rain from early in April to the 25th of May.

Jackson County, Ga.—A sorry stand of cotton, owing to the dry weather. A five weeks' drought just ended.

Macon County, Ga.—The drought has not seriously injured cotton, except in growth. It is about two weeks behind in size.

Morgan County, Ga.—Cotton crop never more promising.

Spaulding County, Ga.—Cotton is in much better condition than at same date last year. The stand is good and the crop is in good order.

Sumter County, Ga.—Owing to drought the cotton is small. The stand is poor, but that which is up looks very well.

Decatur County, Ga.—The cotton crop has been retarded by the dry weather, and the stand materially affected.

Schley County, Ga.—Cotton backward, owing to drought.

Bartow County, Ga.—Excellent stand of cotton and the plants growing vigorously.

Harris County, Ga.—The rain on the 26th ultimo brought up the cotton that had failed to come on before, of which there was considerable, and the prospect for a good crop has brightened.

Cave Spring, Ga.—Cotton crop promising; but too much planted. Corn growing beautifully—too little planted. Freedmen working well.

Jackson County, Fla.—Cotton is about two weeks behind its usual growth on account of the late spring. A drought of two or three weeks followed the sudden opening of summer; but rains have been pretty general within the last ten days and the crop is now looking well.

Sumter County, Ala.—Land of all kinds was badly prepared on account of late spring rains, and hence the prospect of cotton is poor, as compared with the condition of the crop at the same season last year, especially where planted very late on sandy land.

Dallas County, Ala.—Cotton is in average condition; the acreage is ten per cent. greater than it was last year.

Clarke County, Ala.—Cotton has a good stand, but is small, and at least two weeks later than it was at the corresponding season of last year. There has been but little rain during the greater part of May, and rain is now needed. March and April were unusually cool, and rains were abundant. The cotton acreage has increased.

Randolph County, Ala.—Cotton has a good stand and is looking well.

De Soto County, Miss.—Cotton is in good condition. This crop has largely increased in acreage and has absorbed almost the entire agricultural interest of the county.

Lauderdale County, Miss.—Cotton is very promising; the land is in better condition, and the stand is better than for many years past, and the work is more forward.

Attala County, Miss.—Cotton is the all-absorbing interest here. The crop is promising.

Grenada County, Miss.—Cotton has been retarded by drought in May, but has improved under late abundant rains, and now looks healthy, though small for this time of year. The culture has been poor, owing to defective labor.

Coahoma County, Miss.—The cotton prospect is good, and the acreage is ten per cent. greater than it was last year.

Sun Flower County, Miss.—Cotton is in excellent condition. Planting was done in April, nearly a month earlier than last year.

Holmes County, Miss.—Cotton looks well.

Winn Parish, La.—Cotton promises better than it has done during the last ten years at the same season, and there is at least two per cent. increase over the acreage of 1869.

Rapides Parish, La.—Cotton is in fine condition and the acreage is considerably larger than that of last year.

Carroll Parish, La.—The prospect is good notwithstanding a wet winter and spring.

Tensas Parish, La.—Cotton is twenty per cent. above an average in condition, and the acreage is one-fifth larger than it was last year.

Williamson County, Texas.—Cotton promises more than an average crop.

Cameron County, Texas.—Cotton planted in February is now opening; that planted later needs rain, and unless this want is soon supplied will probably be ruined. The cotton acreage is ten times what it was last year.

Rusk County, Texas.—Cotton promises an average crop.

Leon County, Texas.—Cotton is in excellent condition, considering the backward spring.

Falls County, Texas.—Cotton is in very good condition, and the acreage is one-fifth larger than that of last year.

Austin County, Texas.—Cotton is in good condition.

Gonzales County, Texas.—Cotton is in average condition, and the acreage is fifty per cent. larger than usual.

Matagorda County, Texas.—Cotton is yet small, but is in healthy condition.

Anderson County, Texas.—Notwithstanding an unusually mild winter, the crops are fully twenty days later than usual, owing to the demoralized state of labor, but are promising in proportion to the care and labor given. The cotton of this county of last year is mostly unsold as yet, on account of the downward tendency of price. This decline seems to have arisen from the opinion prevalent in commercial classes that the crop of 1869 will exceed 3,000,000 bales.

Blanco County, Texas.—Stock raisers have sold all their stock, to be driven to Kansas and California, reserving only a few for home consumption, and have turned their attention to farming. They have put into cultivation one thousand acres of new land and have planted about eight hundred acres in cotton, with the prospect of an average crop.

Galveston County, Texas.—I have seventy-five acres in Sea Island cotton—thirty acres more than last year. Plants small and backward, owing to late planting and want of rain. Stand only moderate. Crop will be light unless we have rain soon. Short staple cotton sparsely planted in this county.

Independence County, Ark.—Cotton was planted about twenty days earlier than usual, and is now very promising.

Arkansas County, Ark.—The cotton crop greatly predominates, and its acreage is larger this year than it was last year. Cotton never looked better than now, but it is suffering to some extent from scarcity of labor.

Phillips County, Ark.—Cotton promising. Larger acreage than last year.

Sebastian County, Ark.—Cotton is doing well. If rain should fall soon, the product will be one-third larger than in any previous year.

Union County, Ark.—Cotton never looked better. Less cotton and more corn has been planted this year than in 1869.

Weakley County, Tenn.—The spring has been remarkably dry and cool, and cotton is very late, some of the growth dying out.

Giles County, Tenn.—There is less cotton planted than in any year from the close of the war up to the present season, and the crop is being better worked.

CORN.

Essex County, Vt.—The corn crop looks well and covers double the area of last year.

Grand Isle County, Vt.—Corn is coming up badly on account of the drought.

Seneca County, N. Y.—Corn not all planted yet, and not sufficient moisture in the ground to start vegetation.

Cumberland County, N. J.—Corn generally planted in good order and came up well, but there has been so much wet weather that the plants look yellow and need sunshine.

Franklin County, Pa.—Corn planted late, on account of rains.

Dauphin County, Pa.—Corn is backward and overrun with weeds, which it is impossible to subdue, on account of constant rain.

Lawrence County, Pa.—Corn is growing well, although a great deal has been washed out by heavy rains.

Bradford County, Pa.—Farmers in the midst of corn planting; the weather a little cool.

Beaver County, Pa.—Corn was planted ten to twenty days earlier than for the past three years, and farmers have commenced to work it.

Kent County, Md.—The season has been rather wet for corn. Oats are flourishing.

Cecil County, Md.—Corn was generally planted late.

Harford County, Md.—Owing to the wet weather fully one-fourth of the corn is yet to be planted; and even when up and growing it is suffering for working, and farmers fear that working corn lands and the harvest will be upon them at the same time.

Carroll County, Md.—The early planting of corn is coming up well. The greater portion of the corn has been put in late.

Howard County, Md.—The corn greatly needs working, being overgrown with weeds.

Spottsylvania County, Va.—A largely-increased breadth of corn has been planted in this county.

King George County, Va.—Corn planted in good time and full quantity, but rain prevents cultivation. Dry weather needed.

Princess Anne County, Va.—Corn stands well and is now ready for hoeing.

Smyth County, Va.—A large area of corn is planted and a good crop is promised.

Pulaski County, Va.—Corn, though planted late, is quite promising. Oats and grass need more rain.

Amelia County, Va.—There is a larger area planted in corn than usual.

New Hanover County, N. C.—The corn crop is very promising, insects being less destructive than usual, owing to the wet spring.

Duplin County, N. C.—Wheat seriously damaged on some plantations by hail.

Davie County, N. C.—Corn very promising.

Mecklenburg County, N. C.—Early corn a poor stand; late planted is better.

Chowan County, N. C.—Corn crop promising.

Edgecomb County, N. C.—The corn stand is excellent, and the prospect of crop good, though the acreage is less than usual.

Pasquotank County, N. C.—Twice as much corn planted in this county this year as in any year since the war.

Bertie County, N. C.—Corn is small for the season.

Richland County, S. C.—Corn which was planted early suffered little from the drought, but that planted late could not get moisture enough to sprout until within the last ten days.

Williamsburg County, S. C.—Corn is good and doing well.

Newberry County, S. C.—Favorable weather since May 20, has improved spring crops very much, and good stands of corn have been secured, and the crop is promising.

Baldwin County, Ga.—Corn looks remarkably well; two to three feet high. More planted than last year.

Macon County, Ga.—Corn two weeks behind in size; not otherwise injured by the drought.

Morgan County, Ga.—The corn crop was never more promising.

Spaulding County, Ga.—Corn is in promising condition.

Decatur County, Ga.—The dry weather has materially affected the stand of corn.

Bartow County, Ga.—Stand of corn excellent; well worked to date.

Harris County, Ga.—The drought did not seriously injure the corn crop.

Manatee County, Fla.—Corn is looking well.

Sumter County, Ala.—Corn is not doing as well, on account of late spring rains preventing a proper preparation of ground. Corn is doing better on sandy land than on prairie soil. Rain is now needed.

Dallas County, Ala.—Corn is in average condition; the acreage is twenty per cent. less than in 1869, while the cotton acreage has increased.

Clarke County, Ala.—Corn is two weeks later than it was last year, and the acreage is smaller, while that of cotton is increased.

Randolph County, Ala.—As a general thing the stand is poor, but since the rain of May 25, corn has grown remarkably. The spring was cold, dry, and late. No rain from March 29 to May 25.

De Soto County, Miss.—A smaller acreage than usual. Corn sells readily at $1 40 per bushel.

Attala County, Miss.—The growing crop is in good condition. Cotton, however, is the absorbing interest here, and the consequence is that corn is now worth $2 per bushel, and bacon 25 cents per pound.

Coahoma County, Miss.—Corn is looking well, and the acreage is about the same as that of last year.

Sun Flower County, Miss.—Corn is in excellent condition.

Holmes County, Miss.—The finest corn season known for years.

Winn Parish, La.—The prospect of the corn crop is better than it has been for the last ten years at the same season, and the acreage is two per cent. greater than that of 1869.

Rapides Parish, La.—The corn crop is above the average of the last two years.

St Mary's Parish, La.—Corn is raised rather to prepare the ground for cane than for direct profit. The crop is an average in condition and acreage.

Carroll Parish, La.—The prospect is good.

Williamson County, Texas.—There is prospect of more than an average crop.

Cameron County, Texas.—Corn planted before February 15 is in average condition; that planted since is suffering from drought.

Rusk County, Texas.—Corn promises an average crop, and the acreage is about equal to that of cotton.

Leon County, Texas.—Corn is in good condition.

Austin County, Texas.—Corn has been somewhat injured by a drought of three weeks' duration.

Matagorda County, Texas.—Corn is backward for want of rain.

Independence County, Ark.—Corn is suffering from drought.

Phillips County, Ark.—Corn looks well. The acreage of corn has diminished, while that of cotton has increased.

Sebastian County, Ark.—Corn promising, notwithstanding the drought, and if rain falls soon the total product will be one-third larger than in any previous year.

Union County, Ark.—Corn and its acreage is increased, while that of cotton is diminished.

Hickman County, Tenn.—Corn looks well, and the acreage is larger than it was last year. Corn is now worth $1 per bushel, and the supply by no means equal to the demand. The usual price here is 50 to 60 cents.

Monroe County, Tenn.—Corn looks well, although badly infested with weeds.

Greene County, Tenn.—Much of the crop came up badly; the cause consisting in peculiarities of temperature, and the condition of the ground. Corn is now very scarce, and the price higher than that of wheat.

Logan County, Ohio.—A larger acreage than usual has been given to corn. It looks well.

Franklin County, Ohio.—Corn in many instances has sprouted and then died in the ground; still there is plenty of time for a good crop.

Miami County, Ohio.—Corn stands well, but rain is needed.

Darke County, Ohio.—It has been somewhat difficult to get a good stand of corn on account of the drought.

Ashland County, Ohio.—The acreage of corn is very large, and the crop in unusually fine condition.

Pickaway County, Ohio.—Cut-worms and wire-worms have been very bad in the corn; some large fields will have to be planted again.

Greene County, Ohio.—Corn will be short in this county.

Lucas County, Ohio.—Corn late and not very good.

Highland County, Ohio.—Corn will be injured by cut-worms to greater extent than ever before.

Montgomery County, Ohio.—Many fields intended for corn remain unplanted on account of the continued drought.

Lorain County, Ohio.—Corn will be short.

Gallatin County, Ill.—The spring thus far has been more than usually favorable for corn. An increased acreage will be planted.

De Kalb County, Ill.—Probably one-third more corn has been planted this year than last. There is a good prospect of an abundant yield.

McDonough County, Ill.—Corn promises well.

St. Clair County, Ill.—The season has been very favorable for corn.

Lake County, Ill.—Corn comes up unevenly, much of the seed remaining as dry as when planted three weeks ago.

Bureau County, Ill.—Corn, in many instances, remains dry in the hills where planted, without sprouting.

Warren County, Ill.—The prospect for a large corn crop is more favorable than for many years.

Scott County, Ill.—A large acreage of corn was planted this year. It looks well.

Sangamon County, Ill.—The season has been remarkably favorable for corn-planting. A wider breadth planted than ever before.

Richland County, Ill.—Corn is suffering much from drought.

Hancock County Ill.—Corn does not come up evenly, but the prospect is not altogether discouraging.

Edgewood, Effingham County, Ill.—There is a larger acreage of corn and oats than ever before, with crops doing well.

Lawrence County, Ill.—Corn suffered greatly during the month of May on account of drought.

Livingston County, Ill.—Corn is doing well.

Kendall County, Ill.—Corn is very even and clean.

Pike County, Ill.—Corn was injured by cold weather.

Knox County, Ill.—The corn prospect was never better at this season.

Elkhart County, Ind.—Corn looks well.

Wayne County, Ind.—Corn not half up.

Madison County, Ind.—Corn is coming up badly.

Johnson County, Ind.—Corn does not stand well.

Whitley County, Ind.—Corn comes up poorly.

Warren County, Ind.—Corn is doing well.

Ripley County, Ind.—Corn has come up poorly.

Pike County, Ind.—Corn is not coming up well.

Marion County, Ind.—Corn as yet less injured than other crops.

Jasper County, Ind.—Corn looks well, and is two weeks earlier than usual.

Greene County, Ind.—The corn planted has not come up, and must be planted over. The driest May ever known.

Cass County, Ind.—Corn is suffering for want of rain.

Steuben County, Ind.—A larger breadth of corn planted than in former years.

St. Joseph County, Ind.—Late planted corn will be a failure unless there is rain soon.

Clay County, Kansas.—Corn planted with hand machines has generally come up. That planted with the hoe fails badly.

Coffey County, Kansas.—Corn came up very unevenly, but looks fine and clean.

Doniphan County, Kansas.—The prospect of a good corn crop is even better than last year.

Leavenworth County, Kansas.—Corn looks remarkably well.

Cuming County, Neb.—Corn rotted badly. Spring cold and backward.

Dakota County, Neb.—In many instances farmers have been compelled to replant corn on account of ravages of the cut-worm.

Merrick County, Neb.—The season is rather late, but corn-planting is not over. A great deal is being planted.

Fillmore County, Minn.—Corn is in fair condition, and double the usual amount of land is planted.

Lee County, Iowa.—There is a largely-increased acreage of corn, in the best condition.

Pocahontas County, Iowa.—Crops generally are in good condition, and about the average amount of corn is planted.

Story County, Iowa.—Prospect of a large crop of corn never better. The finest season in Central Iowa since 1861.

Washington County, Iowa.—A large breadth of corn planted, and the season a month in advance of the last.

Lewis County Mo.—Nearly double the usual amount of corn has been planted, but its condition is not very good.

Green County, Wis.—Corn that was planted early in May looks finely.

Crawford County, Wis.—Corn looks well, but stands thin owing to poor seed.

EXTRACTS FROM CORRESPONDENCE.

WHEAT IN OHIO.

The president of the Ohio Board of Agriculture, James W. Ross, writes from Perrysburg as follows:

Wood County, Ohio.—I returned home last evening from a trip through the southern, southwestern, and western counties of this State, and find all portions suffering severely from excessive drought. The months of April and May have been, with us, the dryest, or with less rain, than any corresponding months for 20 years. All of our crops are suffering for want of rain, the late sown oats, in particular, are almost past reclamation, and will be very light. I find that the general condition of the wheat crop in all the portions of the State visited by me is about the same. That which was sown on heavy clay soil is badly winter-killed; that sown on sandy and gravel sub-soil land is looking tolerably well, but will not be an average crop. The westerly half of the State will not, taking it all together, average over one-third per acre the amount produced last season. Meadows are short and light; pastures are burn-

ing out badly, and the late planted corn is not coming up well, there not being moisture enough in the ground to germinate it, excepting in a few low places.

STEAM CULTURE IN LOUISIANA.

Washington, D. C.—I left Washington City the 21st of May for a trip southward, and found the cotton crop coming up, and both it and the corn crop looking well. Knowing the great interest you feel in steam cultivation, on my arrival at New Orleans I determined to visit Magnolia sugar plantation, owned by Mr. Lawrence, the pioneer of steam plowing in the United States. His crop of cane and corn, about 1,000 acres in one field, had been planted on land plowed and cultivated wholly with the steam plow. Not one drop of rain had fallen for more than six weeks, and the crops on the various plantations passed, though green, were quite small, from excessive drought. I was surprised when I got to Magnolia to find the cane and corn looking dark and exceedingly thrifty, and I am free to say it is the most splendid-looking crop of cane and corn I saw in the State. The dry weather had not affected the growth of the crops, which were in a forward and flourishing condition. The crop was nearly all laid by, and it had been worked by about half of the usual number of hands. I was shown a few acres of three-year-old rattoon canes that had been deeply sub-soiled with the steam plow, apparently as good as any cane in the field. Mr. L. is very sanguine that the cane crop can be made, with steam cultivation, with one-third less mules, one-third less laborers, and will give one-third more yield per acre than under the old system.

OSAGE ORANGE FOR THE SILK-WORM.

Utah County, Utah.—Having been engaged in silk culture for three years past, I take the liberty of submitting to you a report of what I have done.

In 1867 the Hon. Albert K. Thurber, of this place, on his return from a visit to London, England, presented me with a few silk-worm eggs of the old French variety. They made sixteen cocoons, producing three female moths. The following year I raised five hundred worms, but not having sufficient mulberry leaves to feed them, I fed part of them on Osage orange; they ate it with avidity, all did well, and made cocoons of good size and color. Last season (1869) I fed five thousand worms on Osage orange, and they made five thousand cocoons. This season I am feeding ten thousand worms on Osage orange and they are doing well. I would here remark that I have never found a diseased worm since I commenced raising silk.

I have fed a portion of my worms each season on mulberry and a portion on Osage orange, and those fed on the latter have thrived and done as well as those fed on the former. I do not suppose Osage orange is preferable to mulberry to feed silk-worms, but it may be of importance to some to know that they will do well upon it. I have fed worms on the two kinds of feed in close proximity, and have known them to leave the mulberry and go to the Osage orange. The dryness of our climate and the absence of thunder-storms during the feeding season render Utah particularly adapted to the raising of silk, and perhaps may be more favorable for feeding Osage orange than a moist climate.

Not having sufficient knowledge of the quality of silk to test it, I sent some cocoons to Mr. Muller, of Nevada City, California, to be reeled and

tested, and he reports that the silk is, to all appearances, strong and of excellent quality. I intend to make a business of silk culture as fast as circumstances will permit.

[Professor Glover, of this Department, four years since fed the silk-worm (Bombyx mori) with the Osage orange with success corresponding with the foregoing experiment.]

HOPS IN ALABAMA.

Sumter County, Alabama.—Dr. E. H. Sholl, of this county, states that in February, 1868, he and Mr. E. Kring planted one and a half acre in hops, manuring liberally with home-made superphosphate. The vines grew vigorously, and were poled May 8. At date of June 3, some of the hops were fully matured, and the entire crop was gathered by July 20. In January, 1869, seven and a half acres were set out, and there was promise of a large yield, but owing to the impossibility of procuring pickers at the proper time, the enterprise was necessarily abandoned. Dr. S. is satisfied that, with a proper supply of labor, hops can be raised here very successfully, with a yield of fourteen hundred to eighteen hundred pounds per acre, and that the product can be put on the market from the 1st to the 10th of August, the crop being thus made especially valuable by early availability. Good cotton land—in other words, a light sandy loam with clay subsoil—is our best hop land.

CLOVER IN MISSISSIPPI.

Wilkinson County, Miss.—On land deeply plowed and well prepared, red clover does well here, although in much the greater part of the county there is too little lime in the soil. Yellow clover succeeds finely in every locality in which I have seen it tried, furnishing a great amount of nutritious grazing during winter and spring, being very luxuriant from March to May inclusive, when pasture is most needed here. Even this species is grown here to a very limited extent, however.

SALT UPON CORN.

Clinton County, Penn.—I have tried salt upon my corn mixed with Nova Scotia plaster, at the rate of one bushel to three of plaster, with very favorable results, but have never tested it by measuring the ground or the grain and comparing with other ground not salted. The mixture was applied at the ratio of one bushel to the acre.

SORGHUM IN PREBLE COUNTY, OHIO.

Preble County, Ohio.—Sorghum is a success here—for molasses—and I take pleasure in stating that the molasses improves with age; some placed upon the table lately was as clear as the finest strained honey, and free from any of that peculiar rank taste that renders sorghum so unpalatable to many persons; it was made five years ago and then of about average value.

TOBACCO AND BROOM CORN IN BUTLER COUNTY, OHIO.

Butler County, Ohio.—Our farmers are paying more attention to the culture of tobacco and broom corn; for the latter a ready sale can be

had at "home." An acre of good ground will produce about one thousand pounds of brown corn, valued at about $300 to $350 per ton.

THE SANDOMIRKA WHEAT IN VERMONT.

Windsor County, Vt.—About three years ago I received from you a package of the Sandomirka wheat, which was first sown in the fall of 1867, and the third crop is now on the ground. It has stood three severe "Vermont winters" without being in the least winter-killed, nor has it suffered from rust, smut, or the weevil. The yield has been equal to that of the best varieties raised here.

CHEESE FACTORIES IN MASSACHUSETTS.

Franklin County, Mass.—More than half of the fine wool sheep have been disposed of within the past two years, and the stock of South-downs has increased. More attention is being given to butter and cheese. Four cheese factories have been built within two years.

VAN WERT COUNTY, OHIO.

Van Wert County, Ohio.—The timber interest of this county is rapidly growing, and the black swamp region, on the rim of which we are, is commencing to reap a rich reward from timbers heretofore considered worthless. I am safe in saying that two hundred to three hundred cords of elm, bass, cotton, sycamore, and that class of timber, is daily used by the stave factories of this county, and factories are rapidly increasing in numbers and capacity. Their manufactured stock finds a ready market at Baltimore, Philadelphia, St. Louis, and intermediate points. A large business is also being done here in the more valuable timbers, such as walnut, oak, hickory, ash, &c.

Drainage is beginning to attract a great deal of attention; all streams are being cleaned out; many straightened and deepened. There is a great deal of open ditching, and now our farmers are commencing to lay tile and other underground ditches. Tile factories are springing up rapidly, and, with our rich and deep soil thoroughly drained and our crops accessible to excellent markets, this part of Ohio should become one of the most productive parts of this great State. The first cheese factory has just been started in this county; steam power is used, and the prospects of success are good.

RESOURCES OF UTAH TERRITORY.

Salt Lake, Utah.—After investigating the agricultural resources of this Territory I am free to say that I have been more than agreeably disappointed. I had supposed that it was scarcely less than a barren waste. I now believe that it is among the finest agricultural and pastoral regions of all the Territories. Of course we must irrigate in most localities, but it has been demonstrated that by planting trees and cultivating the soil, the rain-fall increases every year, requiring constantly less irrigation. I am disposed to think that if there was an abundance of water in all parts of the Territory and so situated that land could be irrigated at the same expense that land is now irrigated, I would prefer it to the rains and seasons of Illinois. Where proper irrigation can be had, double the amount of all kinds of grain and vegetables can be raised here that can be raised in Illinois. As we have not got the water

in all parts of the Territory we must resort to tree planting in the hope that it will remedy the evil.

As for the mineral resources of the Territory I honestly believe we are the richest of all the Territories—richer than all the States, possibly excepting California. You must bear in mind that mining here is in its infancy. Effort has been made to prevent the development of our mineral wealth for fear there would be a rush of Gentile emigrants, but that day has passed, and hundreds of miners from surrounding Territories are flocking in. Hundreds of tons of ore are being shipped from here to San Francisco to be smelted, which, after paying all expenses, nets to the miner $30 to $50 per ton, showing clearly the extreme richness of the ores.

THE CLIMATE AND THE CAPABILITIES OF ARIZONA.

Pah Ute County, Arizona.—A rain-gauge is scarcely needed here, as it never rains. I should judge that the past year has not afforded us over one and a half inches of rain, and this is much the same in every season. Snow is out of the question. The past winter has been rather cold; thermometer descending to 18°, (above zero,) one degree lower than observed before. Spring is very backward, at date; frost has not entirely ceased, though the mercury rises to 70° in the shade in daytime. The climate is subject to great extremes; the highest heat I have known here was 118° in the shade, 155° in the sunshine. The country is arid and sterile, depending on irrigation for any crop. The valley land, with irrigation, will yield an average of twenty-five bushels of wheat per acre, often less, and sometimes as much as sixty; cotton, from four hundred to one thousand pounds lint. Of trees, the fig and pomegranate alone seem to thrive well. Grapes are super-excellent—all the best grapes of Europe flourish here to perfection; and there is no region known to me on the globe that will excel this for the vine. I have, individually, the best collection of European grapes found in a wide region around, which enables me to speak advisedly on the subject. We shall produce here this season a small quantity of as good raisins as the world affords, and expect to see the time shortly when we can send to the eastern States this great culinary luxury unsurpassed, and of American production, asking no odds of Malaga or Cadiz for quality.

TEXAS CATTLE.

Gonzales County, Texas.—It is estimated that twenty thousand beeves have already left this county this spring for the northern market, via Kansas. The average home price for beeves prior to the war was $15; now it is $10. Stock men complain that, while consumers are paying more for their beef, they are receiving thirty-three and one-third per cent. less, the residue going into the hand of speculators. They attribute this fact to two causes, to wit: "First. A combination between a firm in New Orleans, whose names I do not know, and their confrères in this State. By said combination the Texan firm monopolizes the purchasing for the New Orleans market, and the New Orleans parties monopolize the carrying trade of the Gulf of Mexico, and the sales in that city, fix the price they pay, and also the price they receive. Second. By enactments of the different States and the Indian Territory, through which the beeves must be driven, the driving of Texas cattle is either prohibited, or so heavily taxed as to make the expense of getting to market, in the North, enormously high. This action on the part of said States has done more

to embitter Texas against the United States government than almost any other one cause. They read in the Constitution a clause providing for free trade between the States, and then ask, 'What are the guarantees of the Constitution worth to Texas?' I have asked them why they did not apply to the courts for redress. The invariable reply is that the amount of two or three dollars on a beef will hardly justify a suit against so many parties, to wit: each of the Indian tribes, and each of the States through which they have to pass; and, say they, 'if we sue them, it is in courts and before juries of their own section, and what hope can we have of obtaining justice?' As to the cry of disease produced in the North by Texas cattle, no sane man in the State believes but what it is a hoax to prevent Texas beef from competing with Western beef. How can a sound and perfectly healthy animal produce disease in another in the same condition? During fifteen years' residence in this county I have not known a score of deaths from disease among cattle."

Williamson County, Texas.—Large droves of beeves are on their way to Kansas and a Northern market. It is estimated that at least fifteen thousand head have left this county this spring, and there are five thousand more to leave in the fall, making twenty thousand in all. Stock of all kinds looks extremely well.

MINNESOTA BEEF.

Wabasha County, Minn.—There has never, since the settlement of our county, been any prevailing disease among cattle. It is a noticeable fact that almost every beef slaughtered here is in every respect perfectly healthy. This fact is worth the notice of lovers of wholesome beef, and our beef ought to bring a better price in market than beef raised where cattle are subject to a complication of diseases.

STOCK HOGS.

Edgewood, Effingham County, Ill.—From all I can learn, there are ten stock hogs in this portion of the State where there was one last year. Everybody appears to have the pork mania, and pork will sell for less than $5 per hundred within less than twelve months.

COARSE WOOL *vs.* FINE WOOL SHEEP.

Mahoning County, Ohio.—The farmers in this county are importing from Canada and foreign countries large numbers of Leicester and Cotswold breeds, and are selling off their fine wool sheep. This change from fine to coarse wool has been gradually going on for two or three years. A lot of two hundred Cotswold, Leicester, &c., were recently sold for the Philadelphia market, said to be the best ever taken from this part of Ohio. Average weight, two hundred and one and one-half pounds; sold at 10 cents per pound.

DOGS *vs.* SHEEP.

Cave Spring, Ga.—I have noticed in your monthly, as well as annual reports, the great destruction of sheep by dogs, and your appeal to Congress to levy a tax upon dogs in protection to sheep raising. Our State legislatures have also been appealed to, but as your correspondent from Lincoln, Kentucky, remarks "they have turned a deaf ear to our appeal." If Congress does not take the matter in hand and protect the

country, sheep must become very scarce. There is no country better adapted to sheep raising than northern Georgia, and our farmers would gladly have their flocks, were it not for the dogs; but so long as the country is overrun by dogs, sheep-raising is impossible. A neighbor, not long since, counted fifty-two dogs in one mile square; of course some were overlooked, and not ten of that number are of any value. Since the negroes have been freed, a gun and dogs have been the height of their ambition; hence, it is not unfrequently they are seen passing along, with gun on shoulder, with three to four half-starved dogs at their heels; and, what is still more strange, among the whites, the poorer they are in circumstances, and where they have to struggle the hardest to feed their families, you will see as many as four to five curs in their yards; and, when we consider the scarcity and high prices of provisions in the country, the astonishment is, how they can afford to feed so many surplus dogs. Reduce the dogs by taxation, and sheep would rapidly increase; the country would be vastly benefited by a tax on dogs; allowing one dog to each farm free, but rather than to miss, make no discrimination, but tax all $3 a head. We trust that Congress will protect sheep-raising.

Troup County, Ga.—We must have a stringent dog law for the protection of the wool grower, or that interest will go down entirely.

Hall County, Ga.—The dogs are allowed to run at large, and on their account sheep cannot be raised. But for dogs, thousands of sheep would be raised here every year. Cannot Congress pass needful laws to compel men to keep dogs on their own inclosures?

Smith County, Va.—There are comparatively few sheep raised in this county, flocks averaging from ten to fifty, and few of the latter, and yet it is probably one of the best sheep-raising counties in the United States but for the villainous dogs. No one makes sheep-raising a business, only to supply his own demands, with, in some instances, a small surplus. Stock, as horses, mules, cattle, cows, &c., is constantly increasing, both in quantity and quality. We have many fine Durhams, and the farmers generally exhibit a laudable enterprise in improving their stock.

Franklin County, Ga.—Sheep raised in this county only for home consumption. The dogs and negroes kill them.

Wilkinson County, Miss.—Loss of sheep mostly by dogs. Lambs killed by dogs, hogs, wildcats, buzzards, (*Cathartes aura*,) and carrion crows, (*C. atrata.*)

Austin, Texas.—Owing to heavy losses caused by dogs, wolves, and disease, and to the fact that almost every flock is infected with scab, many sheep-raisers have become discouraged and there are only a few flocks left.

Fayette County, Tenn.—The almost universal reply, when questioned as to your flock of sheep to the farmers and planters of this country, "*All killed by dogs.* I have lost all interest in this branch of husbandry." A few flocks are strictly watched and penned at night to furnish a few lambs in the spring. If a dog law could be enacted by the legislature, a new and enlarged interest would be exhibited in this Department; but it is the sheerest folly to undertake it when *nearly* every plantation can furnish a pack of *base-born curs.*

Putnam County, Mo.—The ravages of dogs among sheep continue as bad as ever.

Taney County, Mo.—Dogs and wolves make sad havoc among our sheep.

Sacramento County, Cal.—The wool crop was never better, and the

sheep are remarkably healthy. Eighty to ninety per cent. of lambs have been raised this season. The great enemy to wool and sheep-raisers is the large number of dogs that infest this State. They are a great nuisance, and destroy more sheep than all other casualties combined—wild animals included. If a national tax of $2 on male, and $5 on female dogs was collected, it would give great relief to the sheep-raiser, and prove a blessing to the wool interests generally of this State, besides reducing an intolerable nuisance. This is the general complaint of all owners of sheep.

Sacramento County, Cal.—Urge upon Congress the necessity of having a national tax upon dogs. "*Beware of dogs;*" let us rid the country of them, or if people will indulge in *canine* luxuries, let them pay for it.

MORTALITY AMONG SHEEP.

Williams County, Ohio.—Since last report some flocks of sheep have been decimated by disease, principally grub in the head. One of my neighbors lost seventy out of a flock of about two hundred; another, with a flock of seventy-five, lost all but eleven; other flocks are in good condition.

Pocahontas County, W. Va.—The mortality among sheep has been very great during the spring in consequence of the unfavorable weather and former neglect. Consequently the loss of lambs is very heavy.

Bourbon County, Ky.—I have heard of no disease among sheep in this county; a very few have been killed by dogs; I think three for each one hundred in the county would probably more than cover the loss. The loss of lambs results from inclement weather, as it is not the custom to shelter or house our sheep.

Adair County, Mo.—Fifteen out of each hundred sheep in this county have died of the scab and other diseases. Five per cent. of the lambs have also died. These are low estimates.

Bates County, Mo.—A flock which, at the time of my last report, comprised one thousand three hundred and fifty fine-wool sheep, have all died but twenty of the scab.

Tuscola County, Mich.—Sheep have not done well; neither have lambs. I think that fully eight per cent. of the whole number of sheep have died.

Appanoose County, Iowa.—The loss of sheep and lambs this spring is very great. Entire flocks have been destroyed by scab, which prevails to an alarming extent. The loss of lambs in early spring exceeds anything I ever saw here; in some cases flock-masters allowed their lambs to perish by sheer neglect, and in other instances every lamb has been lost.

Kankakee County, Ill.—Many sheep have died of scab. A large number are being driven west.

Pike County, Ill.—The wolves have killed fully one-half of the lambs in the county.

Randolph County, Ill.—The winter has been extremely wet, and, lambs and sheep being without shelter, the loss has been almost total.

Washington County, Ohio.—In one flock of twelve hundred sheep, four hundred died; in another flock there was a loss of two hundred. Outside of these flocks, the loss has been about as usual, eleven per cent.

DISEASE AMONG COWS.

Windsor County, Vt.—Cows in this and some other counties are abort-

ing, even to greater extent than during the past two years. There have been several cases in my immediate neighborhood within a few days.

Hall County, Ga.—One-tenth of all the cows in this county have died this month with a disease heretofore unknown in this section, and we have no name for it.

DISEASE AMONG HORSES AND MULES.

Kane County, Utah.—A disease has appeared among our horses. The head swells as snake-bitten heads do. The animal appears stupid, and after a few hours the brooks in the eye, or membranes between the upper lid and ball, swell, so as to burst and bleed. If fatal, they die in about twelve hours. No remedy discovered as yet. Mules seem to be more subject to the disease than horses, and mares more so than geldings and studs.

CHICKEN CHOLERA AND HOG CHOLERA.

Austin County, Texas.—Chicken cholera is prevailing; loss generally eighty to ninety per cent.; in some instances all have died. Alum, having been recommended, was tried without success; while green shallots and garlic, chopped fineand mixed with the food, seem to be beneficial.

Coahoma County, Miss.—Hog cholera prevails in the county; not fully developed; loss cannot as yet be estimated.

Hickman County, Tenn.—Hog cholera has been very fatal in some portions of this county.

PROTECTION OF BIRDS.

Alleghany County, Md.—The past month of April has been unusually rainy. The law passed at the last session of our State legislature for the protection of insectivorous birds is generally respected, and we look for very desirable results to our farming interests therefrom.

THE FISHERIES IN NORTH CAROLINA.

Pasquotank County, N. C.—The fisheries in this section have done well. The catch has been fair and the prices good. Perhaps the fisheries on Albemarle Sound and is tributaries have brought into the counties bordering upon them over $1,000,000 this season. This business is large and profitable.

GRASSHOPPERS.

Salt Lake City, Utah.—We are surrounded, encompassed about, and overwhelmed with grasshoppers. These insects have hatched out the past spring by myriads, on the benches around the city, and in most of the unfrequented streets, so that now in the outside lots they are doing a great amount of damage. In my lot, which is on the east part of the town, they have destroyed all my young green vegetables, also my pie-plant, gooseberries, strawberry plants, potato vines, grape vines, old and young, and stripped nine-tenths of my trees of foliage, and now are cutting off the pea vines. As an instance of their voracity, on the 24th of April my place looked lovely in the morning, at noon the small insects commenced to travel in a body, and before sundown the place was as bare as if nothing had been planted, and they, staying around, kept it

so; and now we have the appearance of winter in the lots so affected. The insects have not traveled far into the city in any numbers, because the inhabitants of the outside lots are vigilant in their efforts to destroy all that they can. All modes are resorted to—digging holes, driving the insects into, and burying them in the mud; piling straw, surrounding them and driving them in, and then after dark burning them in the straw; putting a hoop in the mouth of a sack, sweeping them into sacks and crushing them; catching them in sheets and destroying them, &c. Though millions are killed daily, we are overrun with them, and people from the mountains say the hills are covered with small ones, yet to come down. It is a deplorable prospect, but we "are going to fight it out on that line."

To-day (31st May) we had a lengthy, solid fall of snow and rain; on the hills surrounding us there is quite a depth of snow. The atmosphere was cool, but in the afternoon it cleared up and became warm.

Springville, Utah.—The grasshoppers are more numerous this season than ever before known; already more than one-half of the oats, wheat, and barley, have been destroyed by them. Farmers are replanting with corn. Much of the blossoms and young fruit are cut from the trees of the apple, peach, plum, and pear. Cherries not injured. Currants, gooseberries, strawberries, pie-plant, and vegetables, mostly destroyed.

STOCK IN DAKOTA COUNTY, NEBRASKA.

Dakota County, Neb.—The following extract was inadvertently credited in the last number to Douglas County:

> In regard to the condition of cattle, I must say that the two great snow-storms of the past season have done much injury. One man in this county tried safely to winter two hundred head of cattle brought from Texas last fall. He lost *one-fourth* of the entire number, and fears that others may die before grass comes. It appears Texas cattle cannot be introduced here in safety. Nearly all poorly fed and weak cattle have either perished in the two great storms, or are in a fair way to die soon.

BOTANICAL EXPLORATIONS IN EAST TENNESSEE.

In accordance with instructions, I have made, since the 1st of June, a brief botanical exploration of the high mountain region of East Tennessee, bordering on the boundary line dividing this State from North Carolina, traveling the usual southwestern route, by the Virginia valley, into East Tennessee. I left the railroad at Carter station, about twenty miles south of the State line, and proceeded thence by a rough mountain road, crossing the Watauga River, to Elizabethtown, the county seat of Carter County. This place, located in an irregular alluvial basin on the Doe River, just above its junction with the Watauga, is surrounded by moderately high wooded mountains, the clear rapid mountain stream on which it is located affording excellent water-power, which is only partially improved. From this point, following up the increasingly rugged and contracted valley of Doe River, which at the time was swollen by recent rains to the size of a formidable stream, difficult of crossing by the ordinary method of fording, the next settlement reached was Doe River, seven miles distant, up to which point a branch railroad has been graded and prepared for track-laying, intended eventually to pass through the mountains on the east to connect with the railroad system of North Carolina and the Atlantic coast. Twelve miles further above this point I reached the upper settlement of

this section, directly adjoining the high mountain range of the Roan and Iron Mountains, dividing Tennessee from North Carolina. At Elizabethtown I secured the services of Mr. George Emmert as guide, who, in addition to an intimate knowledge of the whole country adjoining, is possessed of the tact and ingenuity peculiar to mountaineers in all countries. Never at a loss for a trail, always ready to meet emergencies, he was just the companion a stranger to the country would most desire on such a trip.

In making the principal ascent of Roan Mountain, we followed up one of the numerous branches into which Doe River divides, passing through a dense growth of hard-wood forests, consisting mainly of sugar maple, tulip tree, beech, oak, birch, chestnut, and linden, interspersed with occasional growths of wild cherry, magnolia, and horse-chestnut. The undergrowth presented a dense mass of shrubbery, including the kalmia laurel, rhododendron, azalea, oil nut (*pysularia*,) and other forms common to more northern forests. The rich loamy and clay soil was everywhere saturated with moisture, resulting from recent rains. Only rarely, and at long intervals, was there any exposure of granitic rocks, which, as well as the decayed fallen trunks of trees, were densely covered with mosses and folioceous lichens. The clear streams dashed over rocky beds, with crystal pools along their course, from which the guide took out, in an hour's time, a fine string of mountain trout.

In making the steeper ascents directly at the base of the mountain ridge, there was a gradual dwarfing of the forest growth, in which the ordinary species, so abundant below give place to a nearly exclusive preponderance of birch, which was continuous in its dwarfed aspects to the summit gap. Not till reaching this point, fully five thousand feet above the sea level, were we regaled with more than a passing glimpse of the range which we were so laboriously ascending. Here, however, the view opens on the smooth grassy slopes known by the country people under the significant name of "Mountain Balds." These grassy or bushy slopes are interspersed here and there by dark groves of balsam and spruce, which serve to give a pleasant variety to the landscape. From these smooth rounded knolls, a magnificent view is afforded of the surrounding country. In order to give time to a more thorough examination of the vegetation of the high summit range, we made camp for a night on the divide, taking shelter in a dense grove of balsam firs. Fortunately for us, the weather was unusually serene and pleasant. The next day we strolled leisurely over the different swells composing the main ridge, mounting to the highest rocky point, which, according to the accurate measurements of Professor Juyot, reached an elevation of six thousand two hundred and thirty-eight feet above the sea, falling but little below the highest summits in the Alleghany range.

This "beautiful Roan Mountain," so characterized by early travelers, has been a favorite resort of botanists since the time of Michaux's early explorations, in the last century. It was visited by the distinguished American botanist, Professor Gray, of Cambridge, in 1841, who noted, with his accustomed thoroughness, its botanical features. Being six weeks earlier in the season, I was able to add a few of the more forward spring plants to Dr. Gray's list, including, among others, the charming fringed phacelia, (*Phacelia fimbriata*, Michx.) Now, as in the time of these early travelers, these bald, grassy exposures are in extensive use for summer pasturage; and at the season of our visit, June 8 and 9, they were just being occupied for that purpose by the adjoining country people with their herds of cattle and small droves of breeding horses. Here the continuously cool atmosphere, abundance of nutritious grasses, and

clear, cool springs and rivulets of water comprise everything to be desired in making up a quadrupedal paradise.

The lateness of the season may be inferred from the fact that strawberries were in bloom June 9, and the fruit does not ripen till the latter part of July.

We were fortunate, after enjoying a few hours of fine weather and extensive prospect, to accomplish the descent just in time to escape one of those drenching rains so common on these high exposures.

In the lower valleys there is a considerable scope of tillable land composed of a rich soil similar in its general character to the celebrated Virginia Valley. It is well adapted to wheat, corn, grass, and ordinary field crops, the differences of soil and exposure indicating the special adaptation to particular crops. Grass is most luxuriant on limestone soils, but in the more broken districts is apt to be killed by the prolonged summer heat. In approaching the higher mountains the valleys contract, and steep timbered ridges extend to the edge of the swift-flowing watercourses. Here the farming lands are limited to small basins, significantly termed "coves," and occupy the less abrupt slopes which have been cleared of the natural forests. As the elevation increases there is greater coolness of the atmosphere, more frequent rains, and the seasons are favorable to the hardier varieties of small grain, potatoes, and northern fruits. In these mountain districts cattle-raising is the prominent branch of industry, and a system of roving pasturage is adopted as the season advances, gradually ascending to the higher grassy summits of the "bald mountains," to descend again to the lowlands with the recurrence of frost and snow.

Hogs, though of a very inferior breed, are raised at little expense, being allowed to run through the woods, where they feed on wild roots, and later in the fall fatten on acorn mast, chestnuts, and beech nuts.

The country throughout is well adapted to the growth of fruit, particularly apples, which everywhere look thrifty and produce largely, the surplus yield, for want of a convenient market, being generally distilled into apple brandy. Wild fruits and nuts are abundant in their season, and add their material attractions to the picturesque landscape.

It is the inexhaustible timber product of this region that will eventually constitute the main source of its wealth. Nowhere else are to be found such magnificent forests of sugar maple, beech, chestnut, tulip tree, oak, birch, &c. Mile after mile in almost wearisome succession tower aloft these monarchs of the woods. Pine, hemlock, and cedar occur mostly in scattered groves, indicating generally a sandstone substratum. Locust trees abound in certain sections, and the wild cherry attains an unusual size. A tree of the latter was pointed out to me having a diameter at base of nearly five feet, and a height of not less than one hundred feet; still thrifty and apparently sound to the heart.

In this connection, the prevalence of hard-wood growth, together with abundant water-power, and extensive beds of iron ore, plainly indicate the direction which future industry will take, aided by the construction of railroads, in developing a country distinguished for salubrity, beautiful scenery, and all the desirable accessories of civilized life.

C. C. PARRY,
Botanist.

Hon. HORACE CAPRON,
Commissioner.

GREAT SALE OF SHORT HORNS.

The largest sale of short horns ever effected in this country occurred at Xenia, Greene County, Ohio, June 8, when the famous Oakland herd of Daniel McMillan, was sold at auction. It is stated that nearly one thousand cattle breeders, from all parts of the United States and from Canada, were in attendance. The number of cattle sold was seventy-one, (including four cows with calves,) producing an aggregate of $63,980, making an average of $901 12, or including the four calves, seventy-five head, averaging $853. The private sales from this herd within the past six months amount to $20,100, making the aggregate $84,080 for the entire herd. In addition there were thirty-three Berkshire hogs sold at $1,008; and a Norman stallion brought $3,100. Amount of total sales of stock of all kinds, including cattle previously sold at private sale, $88,288. The following is a list of sales:

Fancy.—Bred by David Watson, Union County, Ohio. Calved November, 1854. Got by Mario 683½, (14799;) dam, imported Stapleton Lass, &c. Sold to Sam. Deyes, of Macomb, Illinois, for $275.

Louan X.—Red and white. Bred by Jere. Duncan, of Paris, Kentucky. Calved December 6, 1857. Got by Duke of Airdrie, (12730;) dam, Louan II, &c. Sold to T. J. McGibbons, Cynthiana, Kentucky, for $475.

Myrtle.—Roan. Bred by James Fullington, Irwin, Ohio. Calved March 13, 1858; and calf, Myrtle Princess. Red. Calved March 8, 1870. Cow got by imported Starlight, (12146,) 1003; dam, Lady Watson, &c. Calf got by Plantagenet 6031. Sold to James Fullington, Irwin, Ohio, for $1,005.

Emma Palmer.—Red and white. Bred by G. C. Palmer, Greene County, Ohio. Calved June, 1858. Got by imported Warrior 1076, (12287;) dam, Young Emma, &c. Sold to Thomas Kirk, Fayette County, Ohio, for $500.

Flora Bell.—Roan. Bred by R. G. Corwin, Dayton, Ohio. Calved October 16, 1858. Got by imported New Year's Day 746, (13383;) dam, Scottish Blue Belle, &c. Sold to A. Turnbull, Cedarville, Ohio, for $265.

Jessie.—Red. Bred by David Watson, Union County, Ohio. Calved January 10, 1859. Got by Starlight II 2259; dam, Fancy, &c. Sold to Uriah Wilson, Fairfield, Ohio, for $315.

Louan XII.—Red. Bred by Jere. Duncan. Calved April 30, 1859 Got by Orontes II 1966, (11877;) dam, Louan VIII, &c. Sold to R. G. Dunn, London, Ohio, for $800.

May Day.—Red and white. Bred by Jacob Pierce, South Charleston, Ohio. Calved April, 1859. Got by Crusade 2676; dam, Delightful, &c. Sold to P. H. Campbell, Batavia, Illinois, for $525.

Clinton Lady.—Red. Bred by James R. Mills, Reesville, Ohio. Calved March, 1861. Got by Duke of Thorndale 2787; dam, improved Louisa, &c. Sold to Jesse Hagler, Fayette County, Ohio, for $850.

Kitty Clover.—Red and white. Bred by H. W. Rice, Paris, Kentucky. Calved March 14, 1860. Got by Master Mason 4161; dam, Fancy, &c. Sold to Uriah Wilson, Fairfield, Ohio, for $340.

Louan XXI.—Red. Bred by Jere. Duncan, Paris, Kentucky. Calved March 13, 1862. Got by Duke of Airdrie; dam, Louan II, &c. Sold to George Murray, Racine, Wisconsin, for $3,600.

Annie Eggleston.—Red. Calved March 28, 1863. Got by Belted Knight 3667; dam, Myrtle, &c. Sold to Thomas Kirk, Fayette County, Ohio, for $730.

Louan XXIII.—Seven years old. Bred by Jere. Duncan, Paris, Kentucky. Sold to A. J. Dunlap, Galesburg, Illinois, for $1,750.

Bride of Greenwood.—Red and white. Bred by David Selsor, Madison County, Ohio. Calved April 30, 1864. Got by Whittington 3559; dam, Bride IV, &c. Sold to George Gregg, Beachville, Canada West, for $525.

Cressida.—Roan. Bred by the Shakers, Union Village, Ohio. Calved May 14, 1864. Got by Colonel Balco 3664; dam, Lady Butler II, &c. Sold to Uriah Wilson, Fairfield, Ohio, for $455.

Mignonette.—Red. Calved May 10, 1864. Got by General Grant 4825; dam, Jessie, &c. Sold to C. C. & R. H. Parks, Waukegan, Illinois, for $3,800.

Oxford Duchess.—Red. Calved April 27, 1865. Got by third Grand Duke of Oxford 4860; dam, Duchess of Oakland, &c. Sold to W. M. Baines, Metamora, Indiana, for $1,075.

Belle of Oakland.—Roan. Calved September 29, 1861. Got by Starlight II; dam, Lady Watson, &c. Sold to L. C. Coffman, Fayette County, Ohio, for $400.

Highland Lady.—Roan. Bred by J. M. Hill, Harristown, Illinois. Calved January 7,

1865. Got by imported King Alfred 3053, (14760;) dam, White Lady, &c. Sold, with bull calf, to J. H. Spears, Tallula, Illinois, for $2,075.

Louan XXXV.—Red. Bred by Jere. Duncan. Calved March 17, 1865. Got by Duke of Airdrie 2743; dam, Louan XV, &c. Sold to E. G. Bedford, Paris, Kentucky, for $2,625.

Louan XXXIX.—Red. Bred by Jere. Duncan. Calved January 17, 1865. Got by Duke of Airdrie 2743; dam, Louan X, &c. Sold to T. J. McGibbons, Cynthiana, Kentucky, for $1,650.

Eudora.—Roan. Calved August 5, 1865. Got by Grand Duke 3985; dam, Raspberry, &c. Sold to Charles Hook, Xenia, Ohio, for $500.

Louan of Oakland.—Red. Calved August 15, 1865. Got by Prince of Bourbon 6060; dam, Louan XXI, &c. Sold to Milton Briggs, Newton, Iowa, for $800.

Winona.—Red. Calved October 25, 1865. Got by General Grant 4825; dam, Clinton Lady, &c., and calf, Pearl of Oakland. Calved April 28, 1870. Got by Plantagenet 6031. Sold to W. J. Neely, Ottawa, Illinois, for $3,000.

Oneota.—Calved January 14, 1866. Got by Duke of Airdrie 2743; dam Zenaida, &c. Sold to Jesse Hagler, Fayette County, Ohio, for $505.

Minna Eggleston.—Red. Calved December 1, 1866. Got by General Grant; dam, Anna Eggleston, &c. Sold to Asa Bates, Union County, Ohio, for $370.

Fanny Hunt.—Red. Bred by C. M. Clark, Springfield, Ohio. Calved April 25, 1867. Got by Duke of Clark 4720; dam, Anna Hunt, &c. Sold to A. J. Dunlap, Galesburg, Illinois, for $1,025.

Anna Clark.—Red and white. Bred by C. M. Clark. Calved July 1, 1867. Got by Duke of Clark 4720; dam, Lady of Clark, &c. Sold to Milton Briggs, Newton, Iowa, for $950.

Sixth Duchess of Oakland.—Red and white. Calved November 21, 1867. Got by Plantagenet 6031; dam, Fourth Duchess of Oakland, &c. Sold to George Gregg, Beachville, Canada West, for $1,510.

Vain Lady.—Red. Calved December 8, 1867. Got by General Grant 4825; dam, May Day, &c. Sold to P. H. Campbell, Batavia, Illinois, for $525.

Rosa Bonheur.—Red roan. Calved December 20, 1867. Got by General Grant 4825; dam, Maria IV, &c. Sold to James Fullington, Union County, Ohio, for $750.

Seventh Duchess of Oakland.—Red. Calved February 22, 1868. Got by Plantagenet 6031; dam, Duchess of Oakland. Sold to James Fullington, Union County, Ohio, for $1,400.

Honey Bud.—Roan. Bred by R. G. Dunn, London, Ohio. Calved March 28, 1868. Got by Boxer; dam, Enchantress, &c. Sold to P. H. Campbell, Batavia, Illinois, for $600.

Linda Belle II.—Red. Calved March 1, 1868. Got by Plantagenet 6031; dam, Linda Belle, &c. Sold to J. H. Spears, Tallula, Illinois, for $1,525.

Third Louan of Oakland.—Roan. Calved September 8, 1868. Got by Speculator 7288; dam, Louan of Oakland, &c. Sold to Joel W. Armstrong, Deer Park, Illinois, for $600.

Eudora II.—Red. Calved October 9, 1868. Got by Plantagenet 6031; dam, Eudora, &c. Sold to P. H. Campbell, Batavia, Illinois, for $910.

Fourth Louan of Oakland.—Red. Calved October 10, 1868. Got by Second Duke of Geneva 5562; dam, Louan X, &c. Sold to J. C. Jenkins, Petersburg, Kentucky, for $3,650.

Flora Belle III.—Roan. Calved November 7, 1868. Got by Loyal Duke of Oakland 6977; dam, Flora Belle, &c. Sold to J. H. Spears, Tallula, Illinois, for $1,325.

Forest Queen.—Red. Calved November 13, 1868. Got by Plantagenet 6031; dam, May Day, &c. Sold to George Murray, Racine, Wisconsin, for $2,800.

Sixth Louan of Oakland.—Red and white. Calved November 21, 1868. Got by Plantagenet 6031; dam, Louan XXI, &c. Sold to George Murray, Racine, Wisconsin, for $2,000.

Florine.—Ten months old. Sold to Thomas Mills, Nashota, Wisconsin, for $525.

Minna Watson.—Roan. Calved September 10, 1869. Got by Loyal Duke of Oakland, 6977; dam, Belle of Oakland, &c. Sold to H. B. Sherman, Toledo, Ohio, for $525.

Eudora III.—Roan. Calved October 15, 1869. Got by Plantagenet 6031; dam, Eudora, &c. Sold to David Baker, Richland County, Ohio, for $355.

Oxford Queen.—Red and white. Calved December 10, 1869. Got by Plantagenet 6031; dam Oxford Duchess, &c. Sold to J. W. Armstrong, La Salle County, Illinois, for $560.

Magenta,—Red. Calved January 18, 1870. Got by Plantagenet 6031; dam, Clinton Lady, &c. Sold to J. H. Spears, Tallula, Illinois, for $1,105.

Seventh Louan of Oakland. Red. Calved March 18, 1870. Got by Plantagenet 6031; dam, Louan XXXV, &c. Sold to E. G. Bedford, Paris, Kentucky, for $300.

Fourth Belle Republic.—Roan. Bred by John Martin, Union Village, Ohio. Calved September 12, 1863. Got by Imperial Lord Raine II (14662;) dam, Atlanta, &c. Sold to M. Briggs, Newton, Iowa, for $500.

Fifth Belle Republic.—Roan. Bred by John Martin. Calved July 17, 1864. Got by Belted Mac 3668; dam, Atlanta. Sold to A. Bates, Union County, Ohio, for $445.

Sixth Belle Republic.—Roan. Bred by John Martin. Calved August 27, 1865. Got by Belted Mac 3668; dam, Atlanta, &c. Sold to Cyrus Jones, Towanda, Illinois, for $250.

One hundred and forty-first Belle Republic.—Red. Bred by S. Corbin, Bourbon County, Kentucky. Calved March 4, 1864. Got by Sam. Wiley 3412; dam, Mary, &c. Sold to M. Briggs, Newton, Iowa, for $700.

Emma II.—Red. Bred by B. Caragna, Cincinnati, Ohio. Got by First Great Republic 6822; dam, Emma, &c. Sold to P. H. Campbell, Batavia, Illinois, for $730.

Tenth Belle Republic and calf.—Red. Bred by John Martin, Union Village, Ohio. Calved February 25, 1866. Got by First Great Republic 6822; dam, Medora IV, &c. Sold to M. Briggs, Newton, Iowa, for $700.

Sallie.—Red and white. Bred by B. Caragna, Cincinnati, Ohio. Calved June 30, 1868. Got by Noble Duke 8702; dam, Adelaide, &c. Sold to C. C. and R. H. Parks, Waukegan, Illinois, for $485.

Alice.—Red and white. Bred by B. Caragna. Calved July 10, 1868. Got by Remick, 8943; dam, Maria, &c. Sold to D. Baker, Richland County, Ohio, for $350.

Plumwood Elf.—Bred by R. G. Dunn, Madison County, Ohio. Calved May 13, 1869. Got by Bon Ton 5384; dam, Ellensmere, &c. Sold to George Gregg, Beachville, Canada West, for $310.

BULLS.

Oxford Lad.—Ten years old. Sold to Samuel Deyes, Macomb, Illinois, for $75.

Royal Oakland.—Red. Calved March 17, 1868. Got by Plantagenet 6031; dam, Mignionette, &c. Sold to James Fullington, Union County, Ohio, for $1,300. [This bull was sold the next day by Mr. F. for $2,000.]

Sherman.—Red. Bred by W. H. Palmer, Fayette County, Ohio. Calved April 15, 1868. Got by Highland Duke; dam, Lady Blanche, &c. Sold to P. Hitchcock, Geauga County, for $320.

Royal Lad.—Red and white, Calved October 20, 1868. Got by Plantagenet; dam, Oxford Duchess, &c. Sold to J. W. Shinn, Selma, Ohio, for $825.

Climax.—Eleven months old. Sold to Thomas Miles, Nashota, Wisconsin, for $350.

Defender.—Red and white. Calved August 15, 1869. Got by Lisca; dam, Minna Eggleston, &c. Sold to Edward Green, Delaware, Ohio, for $250.

Baron Oakland.—Red. Calved September 12, 1869. Got by Plantagenet; dam, Louan of Oakland, &c. Sold to Samuel Deyes, Macomb, Illinois, for $525.

Financier.—Red. Calved January 2, 1870. Got by Plantagenet; dam, Louan XXXIX, &c. Sold to T. J. McGibbons, Cynthiana, Kentucky, for $390.

Guardsman.—Red. Calved February 14, 1860. Got by Plantagenet; dam, May Day &c. Sold to H. B. Sherman, Toledo, Ohio, for $410.

Enchanter.—Roan. Calved April 20, 1860. Got by Roan Duke; dam, Jenny Mills, &c. Sold to Renick & Wiggins, Circleville, Ohio, for $305.

Imperial Oakland.—Red. Calved March 13, 1870. Got by Plantagenet, dam, Louan XII, &c. Sold to Geo. M. Colter, Reesville, Ohio, for $405.

Crown Prince of Oakland.—Red. Calved March 18, 1870. Got by Plantagenet; dam, Louan X, &c. Sold to J. H. Spears, Tallula, Illinois, for $450.

Plumwood Oxford 8798.—Roan. Bred by R. G. Dunn. Calved March 3, 1868. Got by Boxer 5395; dam, Rosa Clay, &c. Sold to Wm. Steele, Mt. Pleasant, Pennsylvania, for $400.

Contributor.—Nine months old. Sold to N. Walker, Baltimore, Maryland, for $360.

Royal Competitor.—Red. Calved November 10, 1866. Got by General Grant; dam, Louan XXIII, &c. Sold to M. Briggs, Newton, Iowa, for $700.

Echo of Oakland.—Roan. Calved April 2, 1870. Got by Plantagenet; dam, Louan XXIII, &c. Sold to A. J. Dunlap, Galesburg, Illinois, for $505.

The imported Norman stallion "Phil. Sheridan" was sold for $3,100 to J. Q. Hutchinson and J. R. Marshall, of Xenia, Ohio.

SALES OF SHORT-HORNS IN ENGLAND.

At the Farnley sale of short-horns, held February 25, nineteen cows and ten bulls, bred by Mr. F. H. Fawkes, were sold; the cows averaging £30 7*s.* 6*d.*, and the bulls £37 13*s.* 11*d.*

At the Beaumont Grange sale, held February 25, thirty head from Mr. W. W. Slye's herd were sold; the cows bringing an average of £45 2*s.* 3*d.*, and the bulls £29 6*s.* 7*d.* per head.

At the annual sale of Mr. Milne, of Kinaldie, Aberdeenshire, Scotland, prices ranged from 14 to 30 guineas for bulls, and from 11 to 40 guineas for heifers. The bulls averaged £25 per head.

RHEEA FIBER.

A letter to the Commissioner of Agriculture from A. H. Bleclynder, secretary of the Agricultural and Horticultural Society of India, gives some information concerning the cultivation in India of the rheea fiber, which he says is identical with China grass, the *Urtica tenacissima* of Roxburgh and the *Bœchmeria nivea* of Latin botanists. He says:

The "rheea" of Assam (*Bœchmeria nivea* of botanists) is indigenous to Cachar and the northeastern districts of Bengal, Rungpore, and Dinagepore, where it is known under the name of "kunchoora." It is also indigenous to Burmah, and is the "pan" of the Shan country, the "calooe" of Sumatra, and the "ramee" of the Eastern Archipelago. It is identical with the "chuma" of the Chinese, from which the well-known China-grass cloth is manufactured.

About thirty years ago Colonel Jenkins, the commissioner of Assam, sent a few rheea plants to the Agricultural and Horticultural Society of India. From this a nucleus was formed in the economic portion of their garden, and retained in cultivation till last year, when the entire garden was resumed by government. From this cultivation of about half an acre many thousands of cuttings have been distributed over the country.

Like several other plants which are readily multiplied by suckers, layers, and cuttings, the rheea does not yield fertile seed; but this is of less consequence, for, as already observed, it can be readily propagated by other means. From a small plot of ground sufficient stock can be obtained in one season to plant a large area. If the soil be good and care is bestowed on the plants by keeping them clear of weeds, and irrigating when necessary, and the ground carefully drained when too wet, three cuttings may be annually obtained.

The time for cutting is when the plant is in flower; if delayed beyond that period the stalk becomes hard and the fiber harsh.

The most extended cultivation that has been brought to the notice of the society is that of the Messrs. Morrell, at Morrellgunge, in the Jessore Sunderbunds. The plant thrives most luxuriantly in that locality, and the fiber prepared under their superintendence is, as respects quality and strength, all that can be desired, precisely similar to the chuma, and such as would command a fair price, say £70 per ton in the English market. But I am given to understand that even this figure will not allow a fair margin of profit after deducting the cost of preparation, and allowing for all other contingent expenses in the shape of land carriage, freight, custom duty, &c.

The rheea possesses this advantage over other well-known fibrous-yielding plants—flax, hemp, sunn, jute—that it is a perennial. On the other hand, there is this disadvantage, that water-steeping or maceration destroys the strength of the fiber. The dry process, by hand, has been the mode hitherto adopted in India to remove the fiber from the stem. The process adopted by the Chinese is tedious. The Assamese process is so exceedingly slow and expensive, a man not being able to separate more than one-half a pound of fiber from the stalks per day, that the cost of preparation has hitherto prevented the export from this country, except to a very limited extent, of a fiber which is probably the strongest in the world, and which is capable of being worked into the most beautiful fabrics. Several attempts have been made to substitute machinery for hand labor, but, so far as I am aware, all have hitherto proved ineffective.

TRIALS OF HARVESTING MACHINERY.

The Missouri State Board of Agriculture have ordered a field trial of reapers, mowers, horse hay-forks, hay-stackers, hay-rakes, and all kinds of machinery germane to harvesting, to be held near St. Louis during the harvest of 1870. The trial will be conducted under the immediate supervision of the board, some of the members of which will serve on

each of the awarding committees. The trial will be conducted in the main under the rules of the reaper trial held at Dixon, Illinois, which were also adopted at the last World's Fair held in France, viz: 1. Quality of work, representing perfection, 40. 2. Simplicity of construction, representing perfection, 10. 3. Durability of construction, representing perfection, 15. 4. Ease of draft, representing perfection, 20. 5. Market price, 5. 6. Facility of management, 10. A perfect machine, (reaper or mower,) 100. Entry fees of $5 to $10 will be charged for machines.

The award will be the certificate of the Missouri State Board of Agriculture, and that to be the first and only reward.

The Ohio State Board of Agriculture will conduct a competitive trial of reapers and mowers at Mansfield, Ohio, during the coming harvest; the trial to commence at such time as wheat may be in proper condition to test the machines, and will continue from day to day until all machines are satisfactorily tried. The scale of merits, as agreed upon by the committee, is the same as that adopted for the Missouri trial. The first prize will be a gold medal for the best reaping machine; the second, a gold medal for the best mowing machine; the third, a gold medal for the best reaping and mowing machine.

WEST NEWBURY FARMERS' CLUB.

Hints for the guidance of farmers' clubs may prove of great advantage to agriculturists. These primary organizations, inexpensive, social, and informal, should bring out much of individuality, variety, and originality, and prove to be of great local utility. As a contribution to the general fund of interest in these organizations, the following facts concerning the Farmers' Club of West Newbury, Massachusetts, are given:

At a recent meeting a committee of six members was chosen to visit eighteen farms, belonging to members of the club, examine buildings, cattle, and other animals, note the general management pertaining to the farm, and report upon the same at some future meeting of the club. Calvin Rogers, Wm. Merrill, S. E. Noyes, Amos Poor, and Thomas G. Ordway, were chosen the committee of examination. The following subjects for discussion were also agreed upon:

1. Pasture lands—how improved; how much per acre will it do to lay out for improvements; comparative condition now and twenty-five years ago.

2. Ought we to set out apple and pear trees? What is the general condition of the trees, the prospects, &c.?

3. Does it pay to raise root crops largely for stock? What is the cost, the value, and which are the best varieties?

4. Does it pay to raise hogs for market? What is the cost of pork, with corn at $1 25 per bushel?

5. Ought farmers to make a specialty of any one crop?

6. Can the farmer afford to hire help? How much can he afford to pay for ordinary help? How much can a man earn in cultivating hoed crops, setting aside cost of land? Comparative earnings of farmers and mechanics.

7. Is farming in Essex County less profitable than in other localities? Can one afford to hire money to buy land, or to make improvements on land?

8. Has chemistry been any help to the farmer? Can he afford to use manufactured fertilizers?

9. What birds are beneficial to the farmer, and what injurious?
10. Treatment of domestic animals, including feeding, &c.
11. Fertilizers.
12. Plowing.
13. Protective tariff—how does it bear on the farmer?

HOW TO KILL THE CURCULIO.

The St. Joseph Fruit Growers' Association recommend the following method of destroying this pest, the credit for the discovery of which is ascribed to Mr. B. Ransom, of St. Joseph, which appears to have been quite effective, if the statement of the extraordinary number of curculios destroyed can be credited. It is often found in the experience of the entomologist of this Department that other and quite different (and sometimes beneficial) insects are assumed to be the curculios:

Put the orchard in the best order; level down the soil about the root of every peach tree, and smooth a circle for a diameter of two and a half feet from the tree as a center. Have the ground very clear around the base of the tree. Do not leave a single hole near the tree. Leave no place where the curculio can hide, except under the shelter you provide. Now lay close to the tree, and close to the ground, about four pieces to a tree, either chip, or bark, or board, or lath, or rag, or anything, for a cover.

The curculio will conceal itself under this shelter, and may be destroyed by the thousands. Go round every day and turn over each chip. Kill every curculio. They will generally adhere to the chip, but may often be found on the ground under the chip.

By this method Mr. Whittlesey killed two thousand seven hundred and fifteen curculios about the roots of two hundred trees on the 15th; in four hours under the same trees he killed one thousand five hundred and sixty-six. In three small orchards Mr. W. and Mr. Ransom destroyed upwards of five thousand in five hours. In four hours, in his own orchard, Mr. R. destroyed two thousand one hundred and nine, by actual count. Peach-growers are called upon to unite in ridding the orchards of the pest thus early in the season, and thus save the crop, which is now threatened with destruction.

THE STATE OF OREGON.

The San Francisco Bulletin speaks as follows of the great resources and bright future of this rich agricultural district on the Pacific:

It is cheering to notice the rapid strides that our sister Pacific State is making in the direction of healthy and permanent prosperity. The construction of a trunk railroad through her central valleys, from the Columbia to the California line, soon to be connected with the Pacific railroad, both by way of Idaho and this State; the multiplication of manufactures and natural products; the enlargement of home commerce; the greater amount of land under cultivation; the growth of towns and enhancement of real values; the quickened demand for land, and the influx of immigration—these are all circumstances which the telegraph reports daily, and which make up a record of substantial progress. The fact is that Oregon, in common with California, is just entering on a career of such prosperous development as marked the history of several of the Mississippi States in the decade following 1850. This was delayed twenty years by the remoteness and isolation which have been ended at last, and by the completion of the Pacific railroad and the construction of local branches.

There is no more orderly and economical State in the Union than Oregon. All its growth has been gradual and healthy, for while it possesses great mineral resources, it has never been demoralized by great mining excitements. With an area larger than that of Pennsylvania and New York combined, half of which is adapted to agriculture

and grazing purposes, and the remainder valuable for its famous timber, it has yet scarcely one hundred and twenty thousand inhabitants, and not over six per cent. of its arable lands has passed into private ownership, while hardly two per cent. is under actual cultivation. Most of its arable land is in a series of valleys, well watered, fertile and picturesque. It is a great wheat State. Its apple orchards are not equaled anywhere in the East, and its climate favors a greater variety of products than any of the Northern States. It has mines of iron and coal, as well as of gold, silver, copper and lead.

It is evident that California and Oregon are to be honorable competitors in stimulating emigration westward, and the gain of one will be measurably the gain of the other. Oregon unquestionably has the agricultural, the commercial, and the mineral resources to make her one of the most prosperous States of the Union; her climate is inviting, and her scenery is in some respects superior even to that of California. The board of statistics, immigration, and labor exchange of Portland has recently issued for gratuitous distribution a pamphlet of sixty-two pages, treating comprehensively of the State as an agricultural and commercial region, and giving succinct information about its climate, people, markets, price of land, wages, cost and routes of travel, industries, resources, and improvements. This pamphlet may be obtained free of charge by addressing John M. Drake, secretary Immigration and Labor Exchange, Portland, Oregon.

RECLAMATION OF TIDE LANDS IN SOUTHWESTERN NEW JERSEY.

The following statement relative to the reclamation of tide lands in the southwestern part of New Jersey is condensed from the report for 1869 of the State geologist, Professor George H. Cook.

As early as the year 1700, marshes in the vicinity of Salem, New Jersey, were diked and drained. At the present time there are 15,000 acres of such reclaimed lands in Salem County, besides large areas in Gloucester, in Cumberland, and in Cape May County.

The work of reclamation is now in great measure conducted by associated enterprise, under a special State law, by one provision of which no tract can be made subject to such improvement until consent is obtained from the owners of two-thirds of the territory in question. After the necessary authority has been obtained and the preliminary surveys completed, a ditch is dug on the site of the proposed embankment to secure a good foundation, and outside of this another ditch sufficiently wide to furnish the material of the embankment. Special attention is given to securing a firm foundation, experience having fully demonstrated the necessity of care in this respect. "Cross embankments" built across meadows, having but a thin layer of firm mud over a peaty substratum, have settled gradually till a solid bottom has been reached; in other cases they have sunk quickly out of sight. As soon as a marsh is diked and drained the spongy soil commences to dry and the surface gradually sinks. Tillage and the withdrawal of material by annual cropping increases this subsidence of the soil, till in many cases the meadow sinks to low-water mark, when the usual system of drainage by ditches and sluices fails to free the land from accumulating moisture, and cultivation becomes unprofitable. Skillful managers prefer to counteract this sinking by allowing the tide to overflow the meadow in the winter, during which period a layer of mud, varying from a mere film to twelve inches in thickness, is deposited. Where the surface has

actually settled to low-water mark, a common practice is to leave the meadow open to the tide for a course of years until the deposit of alluvium attains sufficient thickness to warrant a resumption of cultivation. Pumping by steam or wind power, as practiced in England and Holland, would be of great advantage in draining these low-water levels and maintaining them in productive condition.

The Salem County embankments are generally four feet high above the level of the meadows, with a width of eight feet at the base, and three feet at the top. The dimensions, however, vary according to the requirements of situation. At Finn's Point, Lower Penn's Neck, where there is great exposure to the action of the Delaware River, the embankment is ten feet high, with a width of thirty feet at the base, and twelve feet at the top, and is faced with stone on the river side. An area of 1,200 acres is protected by this embankment. In Cumberland County the embankments are frequently from three to seven feet high, built immediately on the surface of the meadows. Where the mud taken from a ditch twelve feet wide by three feet deep furnishes the material of the embankment, the cost of construction is about $3 per rod. At Lower Penn's Neck the first cost of embankments and ditches for drainage averages about $10 per acre. Steam dredging machines, which have recently been introduced, tend to diminish the cost of construction, and, when circumstances of situation demand, accomplish work too heavy to be performed by hand.

The expenditure for repairs of embankments and drains varies with the degree of exposure, ranging generally from fifty cents to $1 per acre annually. At Finn's Point the annual cost of repairs averages $2 per acre. A large proportion of this expenditure is in consequence of the perforations made in the embankments by muskrats and soldier-crabs.

These banked meadows in Salem and Cumberland, once almost worthless, now furnish excellent grazing lands, and on the lowest of the meadows herd's-grass is grown for seed, the average yield being (with very little care or expense in cultivation) about thirty bushels per acre, valued at 75 cents per bushel. The meadows along Maurice River produce, without manuring, very large crops of timothy, grain, and roots. The meadows at Finn's Point yield thirty to forty bushels of wheat per acre, and one hundred and fifty to two hundred bushels of potatoes per acre.

The blue and grey mud soils are suited to all crops. The black mud is better adapted to Indian corn than to wheat. Lime is applied with excellent effect on all these meadows. The average value of the banked meadows in Salem County is probably about $100 per acre; some meadows being worth $400 to $500 per acre.

Professor Cook states that there are 295,474 acres of fresh and salt water tide meadows in New Jersey, of which 20,000 acres, mostly situated on Delaware River and Bay are inclosed by dikes.

Statement showing the quantities and values of certain domestic exports from the United States to the Dominion of Canada and all other British possessions in North America, during the year ended June 30, 1869.

Commodities.	DOMINION OF CANADA.		ALL OTHER BRITISH POSSESSIONS IN NORTH AMERICA.	
	Quantity.	Value.	Quantity.	Value.
Breadstuffs:				
Barley.....bush..	95	$188	6,244	$6,982
Bread and biscuit.....lbs..	115,676	9,210	75,592	4,492
Indian corn.....bush..	2,160,948	1,844,048	7,196	7,050
Indian meal.....bbls..	98,991	527,714	27,227	139,813
Oats.....bush..	284,958	154,606	5,971	4,186
Rice.....lbs..	7,238	523	15,544	258
Rye.....bush..	1,055	1,165	10	15
Rye flour.....bbls..	1,393	11,040	.....	.....
Wheat.....bush..	3,358,597	4,470,304	24,680	32,423
Wheat flour.....bbls..	347,198	2,843,697	155,481	1,025,802
Potatoes.....bush..	164,048	84,209	792	840
Agricultural implements.....	.....	98,031	.....	28,027
Animals, living, of all kinds.....	.....	124,571	.....	123,275
Provisions and tallow:				
Beef.....lbs..	421,607	38,191	494,629	44,117
Butter.....lbs..	7,720	2,918	112,854	39,824
Cheese.....lbs..	17,310	3,061	41,157	7,187
Fish, fresh.....	.....	3,232	.....	928
dried or smoked.....cwt..	93	598	28	277
pickled.....bbls..	2,041	15,349	206	1,227
other cured.....	.....	820	.....	922
Hams and bacon.....lbs..	44,192	7,930	113,825	15,432
Lard.....lbs..	177,574	30,865	73,602	10,197
Pork.....lbs..	5,992,258	807,729	1,798,925	240,216
Tallow.....lbs..	370,912	43,251	2,800	310
Vegetables, fresh or preserved.....	.....	39,898	.....	5,632
Tobacco, leaf.....lbs..	4,525,661	630,800	30,348	4,945
cigars.....M..	28	392	26	1,126
snuff.....lbs..	5,789	2,767	3	2
other manufactures of.....	.....	106,332	.....	31,696
Wood, and manufactures of:				
Boards, clapboards, deals, planks, joists, &c..M..	3,179	48,018	52	1,812
Laths, palings, pickets, &c.....M..	150	350	92	232
Shingles.....M..	118	326	.....	.....
Box shooks.....	.....	20	.....	.....
Other shooks, staves, and headings.....	.....	24,221	.....	5,764
All other lumber.....	.....	20,123	.....	811
Firewood.....cords..	9,826	23,287	.....	.....
Hop, hoop, telegraph poles.....	.....	.....	.....	15
Logs, masts, spars, and other whole timber.....	.....	2,192	.....	311
Timber, sawed and hewn.....M feet..	11,874	212,638	1	81
All other timber.....	.....	12,542	.....	217
Household furniture.....	.....	155,202	.....	19,477
Boxes, coopered ware, &c.....	.....	11,848	.....	5,320
All manufactures not specified.....	.....	251,959	.....	12,853
Wool, raw and fleece.....lbs..	412,375	145,931	30,328	5,594
manufactures of.....	.....	73,798	.....	13,274

Statement showing the quantities and values of certain commodities imported from, and of articles re-exported to, the dominion of Canada, during the year ending June 30, 1869.

Commodities.		IMPORTS.		RE-EXPORTS.	
		Quantity.	Value.	Quantity.	Value.
Breadstuffs:					
Barley	bush..	4,106,899	$4,624,007		
Bread and biscuit	lbs..	603	53		
Indian corn	bush..	778	733		
Indian meal	bbls..	197	519		
Oats	bush..	299,866	131,643		
Rice	lbs..	81,121	3,258	231,215	$7,288
Rye	bush..	198,748	157,731		
Rye flour	bbls..	224	773	50	200
Wheat	bush..	1,337,227	1,673,629		
Wheat flour	bbls..	90,570	445,761	8,254	57,022
Potatoes	bush..	81,005	30,501		
Fish, fresh and cured			1,003,904		16,311
Flax, and manufactures of:					
Raw	tons..	763	182,940		
Manufactures by yards	sq. yds..		864		
Other manufactures			16,364		782
Fruits, all kinds			29,225		111,462
Hemp:					
Raw	tons..			380	86,489
Manufactures by yard		24	12		
Other manufactures of			965		781
Salt	lbs..	23,186,834	70,245	9,173,844	10,836
Tobacco:					
Leaf	lbs..	4,214	1,896	72,897	19,252
Cigars	lbs..	2,469	6,123	20,522	43,065
Snuff	lbs..	6	3		
Other manufactures			474		100
Wood, and manufactures of			7,093,885		3,320
Wool, sheep, goats', and camels' hair, and manufactures of:					
Raw and fleece	lbs..	2,601,359	714,929	280,486	36,760
Clothes and cassimeres			17,905		114
Rags, shoddy, and waste	lbs..	515	60		
Shawls			881		
Blankets			323		
Carpets	sq. yds..	1,133	1,341	3,164	1,113
Dress goods	sq. yds..	40,687	11,698	100,932	25,386
Hosiery, shirts, and drawers			400		
Manufactures not specified			15,163		15,558

THE KEW GARDENS.

The report for 1868 of the royal gardens at Kew, England, has been received, showing the progress of the work during that year. The attendance of visitors was unusually large, aggregating 502,369, of whom 134,728 were present in June. It includes three departments, viz, hot-houses and green-houses, botanic gardens, and pleasure grounds. The following statement is made concerning the interchange of live plants and seeds:

The number of contributors has been one hundred and seventy-two during the past year, and they have sent 2,316 living plants, and 3,302 packets of seeds. During the same period 1,368 living plants and 4,576 packets of seeds have been distributed to one hundred and thirty-eight individuals. This is independent of 2,000 shrubs and trees sent to various public parks, &c., and of 2,126 bedding-out plants distributed to the poor of London and its neighborhood.

Valuable additions were made to the museums and to the herbarium and library from all parts of the world. No less than 4,630 plants or trees have been used in replacing losses from age, and from the effects of the late severe winters.

FACTS FROM VARIOUS SOURCES.

BEET SUGAR IN CALIFORNIA.—The beet sugar works at Alvarado, Alameda County, California, are reported as progressing to completion, at an estimated cost of $75,000, and will have a capacity for crushing fifty tons of beets per day. The capital stock of the company is $260,000. The mill is to be in running order by the time of the next beet crop. The enterprise will be conducted by men who have had much practical experience in the business in German factories, and in this country. At the commencement of operations one hundred to one hundred and fifty men will be employed. Responsible parties offer to contract to raise any quantity of the beet for $4 per ton. The average price paid in France, Belgium, and Germany for the five years ending with 1868 was $4 20 per ton. The beet contains on an average ten per cent. of sugar, but seldom more than seven and a half per cent. is actually realized in the sugaries of France, where the method is by the direct pressing of the pulp. In Belgium and Germany fully eight per cent. is the fair working product, so that eight pounds of merchantable sugar is the certain product of one hundred pounds of the beets grown in the soil and climate of those countries. It is stated that an analysis of California-grown beets shows that they contain ten per cent. of sugar, and may, therefore, be expected to produce at least one hundred and sixty pounds of sugar to each ton of beets.

SUCCESS OF A VINICULTURIST.—In the spring of 1866, an intelligent German, acquainted with grape culture and wine-making, bought forty acres of land for $400, in Put-in-Bay, (an island in Lake Erie,) and immediately commenced planting vines. On the 9th of June three and a half acres were planted with the Delaware and Concord, and at the present time seven acres are planted with Norton's Virginia and Ives's Seedling, and one quarter of an acre with Iona. There is also a nursery of three hundred of the Catawba, and forty other varieties for experimental purposes. In 1868 there was a product of one and a half tun of wine of the Concord grape; and one fourth of a tun of the Delaware. In 1869, when the crop was very poor, three and one-half acres produced $700 worth of grapes. When the land was purchased it was in a rough state, without buildings or fence. It is now provided with a fence, a two-story house, barn, cellar in the rock, well, &c., and its proprietor has a stock on hand of 10,000 gallons of wine, consisting of Red Delaware, and Red and White Concord, Norton, and Catawba.

FRUIT ON THE ILLINOIS CENTRAL RAILROAD.—In 1869 the fruit business on the Illinois Central railroad, from Centralia and stations south of that place, to Chicago, amounted, in a season of fifty-five days, to over 2,500 tons. The same year the railroad company sold to one thousand five hundred and twenty-one purchasers 85,860 acres of land, at an average price of $10 48 per acre—making an aggregate of $899,348 71. Fifty-six was the average number sold to each settler. Of these lands 34,990 acres are in Southern Illinois, and south of the Terre Haute and Alton railroad. At the end of the year 457,779.17 acres of land remained unsold.

INTERNATIONAL EXHIBITION AT GRATZ, AUSTRIA.—We are informed through the State Department that, in celebration of the anniversary of the organization of the Agricultural Society at Gratz, in Styria, Austria, it is proposed to hold during the ensuing autumn an international exposition, to which all agricultural and industrial products will be admitted, as well as objects relating to the fine arts, the sciences, &c. The exposition will be followed by a distribution of medals and premiums.

CHEESE FACTORY IN AUSTRALIA.—An American cheese factory has been established near Alansford, Victoria, Australia, and is the first of the kind opened in the colonies. The present apparatus has a daily capacity to convert three hundred and eighty gallons of milk into cheese, on the factory plan. Cheese from the milk of five hundred cows can be made by three hands; whereas, on the ordinary system, it would require four hands to make cheese from one hundred cows. The owners take the milk to the factory, and receive a minimum of four pence—equal to eight cents, in summer, and four and a half pence, equal to nine cents per gallon, in winter—and have a guarantee that the price of milk per gallon shall never fall below two-thirds the price of cheese per pound. The price of cheese in Melbourne ranges from twelve to eighteen cents per pound.

METEOROLOGY.

COMPILED IN THE DEPARTMENT OF AGRICULTURE FROM REPORTS MADE BY THE OBSERVERS OF THE SMITHSONIAN INSTITUTION.

NOTE.—Observers are respectfully solicited to send their reports as early after the close of the month as possible, with means duly made out, and names of station and observer filled in. The following tables are from reports received up to June 18; many unsightly gaps will be noticed. Those received later can be used in the annual report and by the Smithsonian Institution, but they are desired for our monthly also.

Table showing the highest and lowest range of the thermometer, (with dates prefixed,) the mean temperature, and amount of rain-fall, (in inches and tenths,) for April and May, 1870, at the stations named. Daily observations at 7 a. m., and 2 and 9 p. m.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MAINE.		°		°	°	*In.*		°		°	°	*In.*
Houlton	28	72	1	20	45.0	1.70	30	96	4	32	51.9	1.90
Steuben	9, 26, 29	57	2	30	40.3	6.40	20	80	4	37	.....	.....
Orono	27	69	16	27	43.5	3.55	29	80	6	36	51.9	1.96
Williamsburg	28	72	16	26	41.1	4.50	30	83	10, 24	34	51.9	2.70
W. Waterville	24, 27, 28	70	3, 16	30	46.3	3.80	30	82	10	38	55.2	1.67
Gardiner	27	66	1	29	45.3	4.57	20	79	10	39	54.3	1.90
Lisbon	24	72	1	28	44.8	4.90	20	83	6	37	53.4	1.53
Norway	28	78	1	30	44.6	4.75	29	82	7	36	55.5	1.40
Cornish	28	79	1	29	44.6	6.28	15	81	7, 10	38	55.0	1.55
Cornishville	28	80	4	30	45.3	5.30	15, 20	82	7, 10	40	57.1	1.55
Averages	.....	.....	.....	.....	44.1	4.58	.....	.....	.....	.....	54.0	1.80
NEW HAMPSHIRE.												
Stratford	27	72	1	25	43.6	2.22	30	86	5, 12	33	53.0	2.18
Whitefield	28	78	1	20	46.6	1.86	29	85	7	31	52.2	1.74
Tamworth	28	79	1	25	44.0	5.99	30	83	7	37	56.6	1.03
Concord	27, 28	76	1	31	46.6	.....	15, 20	79	7	39	56.5	.....
Goffstown Center	28	87	4	30	46.7	5.04	16	87	7	37	59.4	3.17
Averages	.....	.....	.....	.....	45.5	3.78	.....	.....	.....	.....	55.6	2.03
VERMONT.												
Lunenburg	27	68	4	25	43.3	2.50	30, 31	82	7	35	54.1	4.00
North Craftsbury	14, 27	68	4	24	42.1	1.06	30	80	13	34	52.1	1.72
Newport	14	73	2, 4	30	45.5	1.20	19, 30	84	12	37	56.5	1.70
East Bethel	28	77	1	23	44.1	3.00	19, 20	85	2, 6	35	57.3	1.17
Woodstock	28	74	1	25	42.0	3.27	15, 16, 19	79	11, 12	39	54.1	1.88
Near St. Alban's	14	71	2	29	46.2	.....	30	82	12	40	56.5	.....
West Charlotte	14	75	2, 4	30	47.4	3.25	30	88	7	38	58.2	0.75
Middlebury	28	73	4	28	47.7	2.67	15	80	22	43	57.9	0.59
Panton	14	74	4	28	46.9	3.50	30	86	12	42	59.4	0.31
Castleton	28	75	4	30	47.2	3.75	15	82	2, 6	41	57.6	1.23
Averages	.....	.....	.....	.....	45.2	2.69	.....	.....	.....	.....	56.4	1.48

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MASSACHUSETTS.		°		°	°	*In.*		°		°	°	*In.*
Kingston	27	73	3	30	43.9	6.07	15	86	17	39	53.6	3.25
Topsfield	14	80	1, 3, 4	32	45.8	5.84						
Newbury	28	86	4	32	46.5							
Lawrence	28	79	4	31	42.1	7.44	15	81	9, 10, 11	40	55.3	1.49
Milton	28	81	3, 4	34	46.2	6.34	15	86	10, 11	42	57.8	2.80
Cambridge	28	82	3	32	49.9		15	86	11, 17	43	58.8	
North Billerica	28	80	3, 4	32	47.0		16	84	9, 11	40	57.9	
New Bedford	14	63	3	33	46.1	5.95	15	80	10, 11	42	54.4	3.39
Worcester	14	75	4	30	47.2	6.03	16	81	7, 11	41	57.1	2.40
Mendon	28	75	6	30	46.2	3.90	16	82	11	39	56.5	1.90
Lunenburg	28	81	4	31	47.1	7.80						
Amherst	14	78	4	35	48.3	3.70	15, 16	82	11	43	58.3	1.72
Richmond	28	74	4, 12	30	48.2	8.40	19	90	8, 10	40	63.5	4.08
Williams College	14	77	4	29	47.9	3.30	19	81	2, 5, 6, 11	42	58.2	1.27
Hinsdale	28	74	4	28	44.1	3.79	16	79	11	38	55.3	1.03
Averages					46.4	5.71					57.2	2.33
RHODE ISLAND.												
Newport	29	59	3, 4	34	46.8	4.52	26	75	11	43	54.8	3.54
CONNECTICUT.												
Columbia	28	75	3, 4, 5	32	49.3	4.63	16	92	11	43	60.2	1.16
Middletown	14	80	4, 6	33	49.2	5.41	16	89	7	42	59.5	1.59
Southington	14	78	4	33	50.2	5.61	16	85	11	42	59.6	1.31
Colebrook	28	76	3, 4	31	46.4	4.22	16	84	11	40	58.4	2.85
Brookfield	28	81	8, 9	32	46.4	3.30	15	86	2	40	59.2	3.50
Averages					48.3	4.63					59.4	2.08
NEW YORK.												
Moriches	14	70	4	35	49.2	4.24	16	85	10, 11	47	59.2	2.38
South Hartford	14	78	4	32	50.3	1.85	15, 16	85	11, 22	49	61.0	0.65
Fort Edward	28	76	4	30	48.0		15	82	11	43	59.0	
Vassar College	14, 15	80	4	30	50.7	2.41						
Garrison's	14, 28	79	4	32	51.0	3.84	15, 16	85	10, 11	46	58.3	2.98
Throg's Neck	28	83	4, 5	34	51.0		17	83	11	47	62.4	
White Plains	14, 15, 28	75	4	32	49.8							
Cooper's Union	28	79	4	33	52.0	5.61	16	83	11	47	62.8	3.08
Columbia College	28	80	4	33	50.6	5.60						
Rutger's Fem. Col.	28	86	1	35	53.8	3.91	15, 16	86	3, 11	48	67.4	2.55
Flatbush	28	81	5	30	50.1	4.18	16	85	10, 11	47	61.5	2.63
Glasco	24	80	4	35	49.6	7.27	15	93	4, 11	39	59.2	2.60
Newburg	14	80	4	30	52.9	3.12	15, 16	90	11	46	63.3	2.49
Minaville	14, 27	75	4	30	47.6	5.65	16	85	2	43	62.1	2.90
Cooperstown	28	78	4, 8, 10	29	47.0	2.36	19	84	2	40	59.2	1.94
Bannerville	9	83	3	25	46.1	9.50	16	84	30	30	58.3	
Gouverneur	14	73	1, 3, 4, 8	30	45.7	0.96	30	86	1	41	57.2	1.01
North Hammond	23	66	4	24	45.9	0.65						

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
NEW YORK—Con.		°		°	°	*In.*		°		°	°	*In.*
Houseville	14	76	4	26	45.6	1.39	.....	.....	.....	.....	.....	.....
Leyden	14, 27	68	4	23	45.3	1.75	19	77	12	42	56.7	1.29
Utica	27	80	5, 8	35	49.8	1.36	30	85	1	43	60.6	1.86
South Trenton	24	70	3,7,9,10	30	44.7	2.54	30	86	1	40	59.3	2.77
Cazenovia	15	77	4	30	46.8	.....	19	82	1	40	58.8	.....
Oneida	15, 27	78	4	33	49.6	2.41	19	83	2, 6, 12	45	60.2	3.36
Depauville	27	66	4	30	45.7	1.15	29	82	22	40	57.7	1.34
Oswego	14	75	4, 5	33	45.4	1.38	31	80	1	42	55.8	0.83
Palermo	14	77	4	30	46.9	1.50	19	84	1	42	58.5	0.30
North Volney	14	77	4	30	47.0	.....	31	85	1	45	59.8	.....
Waterbury	15	85	4	27	41.3	.....	19	90	1	40	59.8	.....
Nichols	24	83	4	30	47.5	.....	19	89	2	41	60.0	.....
Newark Valley	16,25,28	78	4,8,9,10	30	46.6	2.50	19	85	2	37	60.0	3.16
Himrods	27	76	4	26	45.4	3.06	19	80	21	45	58.2	3.19
Rochester	27	76	5	33	48.0	2.75	16, 19	82	7, 12	46	61.2	0.78
Little Genesee	15	82	4, 8	27	45.6	2.49	19	87	2	36	56.0	1.42
Suspension Bri'ge	27	78	5	32	48.0	1.20	20	87	1	38	59.2	0.86
Buffalo	9	73	4	32	47.1	1.15	20	83	12	41	58.8	1.51
Averages	.....	.....	.....	.....	48.0	3.03	.....	.....	.....	.....	61.7	2.05
NEW JERSEY.												
Paterson	28	85	4	33	52.2	5.64	16	88	10	47	62.8	2.96
Newark	28	81	5	31	51.1	7.00	16	82	1	43	60.4	2.00
New Brunswick	28	78	4	32	.....	5.78	16	83	10, 11	47	59.6	3.00
Trenton	15	80	4	36	54.3	3.84	15	84	11	50	65.2	3.40
Rio Grande	15	82	5	31	49.7	5.00	16	87	12, 17	49	61.3	9.50
Moorestown	15	82	4	33	50.3	6.80	16	83	5	46	61.5	6.59
New Germantown	28	83	4	33	50.8	5.32	16	86	11	47	61.2	2.99
Readington	.....	.....	.....	.....	.....	.....	16	85	.....	.....	67.7	.....
Haddonfield	28	84	4	34	51.0	5.67	16, 21	82	11	48	61.1	4.74
Newfield	15	86	4	32	51.3	.....	.....	.....	.....	.....	.....	.....
Greenwich	28	81	4, 5	35	51.9	5.70	16	80	3	50	62.7	7.40
Vineland	15, 28	84	4	33	51.2	5.07	25	88	5	46	63.8	8.45
Averages	.....	.....	.....	.....	51.4	5.58	.....	.....	.....	.....	62.5	5.10
PENNSYLVANIA.												
Nyces	27	78	5	30	46.1	4.71	16	82	11	44	58.0	2.00
Hamlinton	24	76	4	31	48.5	4.25	16	84	11	45	64.1	1.70
Dyberry	27	81	8	26	46.3	3.00	15, 16	83	2	35	58.3	3.15
Fallsington	15	81	4, 5	35	51.0	4.10	16	85	11	49	63.3	3.70
Philadelphia	15	82	4	34	52.5	5.41	21	86	11	50	63.8	5.24
Germantown, (M.)	15, 28	83	6	33	48.9	.....	21	88	27	50	65.3	.....
Do.....(T.)	15	82	4, 5	35	52.3	3.80	16	85	11	49	62.9	7.38
Horsham	15, 28	80	4	34	50.9	6.98	16	80	11	47	57.0	8.43
Plymouth Meet'g.	15, 28	80	4	33	50.5	5.79	16	83	11	48	61.6	6.66
White Hall	15	82	8, 26	32	51.1	.....	16	88	2	38	63.4	.....
Factoryville	15	78	4	28	47.4	3.30	30	82	2	40	59.7	4.00
Reading	15	84	4	36	53.8	6.46	15, 16	86	3, 13	51	63.7	3.91

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
PENN'A—Con'd.		°		°	°	*In.*		°		°	°	*In.*
West Chester	15	84	4	32	53.1	6.45	21	85	11	46	62.0	5.25
Parkersville	15	80	4	34	50.4	6.27	16	85	3	46	62.1	3.90
Ashland	15	84	4	30	51.6	5.20	15	84	2	40	61.0	.....
Tamaqua	15	83	7	28	47.8	.....	16	84	1	35	59.5	4.30
Ephrata	28	84	5	34	52.4	5.72	16	86	12	42	62.4	3.50
Mount Joy	15	85	4, 5, 7	35	53.6	.....	.....	.....	.....	.....	.....	.....
Harrisburg	15	84	4	32	53.5	4.46	15, 16	85	11	50	64.8	4.07
Carlisle	15	94	4	33	54.6	5.90	.....	.....	.....	.....	.....	.....
Fountain Dale	14, 15, 23	80	4	33	52.1	5.43	16	83	2	49	62.9	4.28
Tioga	24	84	3, 13, 26	28	48.4	8.65	15, 16, 19, 20, 21	84	2, 6	40	60.1	2.50
Lewisburg	15	81	4	32	51.0	4.74	15	84	11	46	62.1	3.19
Grampian Hills	15, 24	78	4	26	45.8	1.35	19	86	11	40	59.1	5.61
Johnstown	24	79	4, 8	28	48.8	2.38	19	86	2	34	61.0	4.50
Franklin	14, 24	82	8	28	50.6	2.60	19	88	1	45	63.1	3.82
Pittsburgh	14, 24	78	4, 8	35	52.1	3.50	19	87	1	47	64.7	3.00
Connellsville	14, 24	80	4	30	50.4	.....	19	88	10, 11, 13	46	63.1	.....
Brownsville	15	98	7, 8	35	54.0	.....	24	88	2, 3	48	68.0	.....
New Castle	15	76	8	28	51.6	2.60	19	85	11	42	65.3	5.20
Beaver	14	79	8	34	52.2	4.30	19	87	10	47	67.4	5.10
Canonsburg	24	87	4, 13	34	52.4	2.61	18, 19	89	2	43	64.3	3.41
Averages	.....	.....	.....	.....	50.8	4.61	.....	.....	.....	.....	62.5	4.31
DELAWARE.												
Milford	23	90	4, 5	34	7.70	.....	.....	.....	.....	.....	.....	.....
MARYLAND.												
Woodlawn	15	84	4	31	51.5	6.05	16	85	5, 11, 27, 28	50	63.0	5.06
Annapolis	23	83	5	34	53.8	5.17	4	82	11, 12	52	65.3	5.33
Frederick	15	87	4, 5	40	56.6	5.44	16	88	1, 27, 28	56	68.2	5.06
Mt. St. Mary's	15	81	4	33	51.5	5.65	4, 21	83	11	47	62.6	4.37
Averages	.....	.....	.....	.....	53.4	5.58	.....	.....	.....	.....	64.8	4.96
DIST. COLUMBIA.												
Washington	15	80	5	35	53.8	3.70	4, 16	81	3, 11, 12, 28	54	64.5	4.70
VIRGINIA.												
Johnsontown	15, 28	78	5	36	52.9	3.00	24	81	5	52	63.7	5.70
Hampton	25	84	6	38	55.1	5.50	24	90	11	52	66.0	5.30
Zuni Station	15, 25	84	4, 5	40	56.6	3.61	24	88	12	48	67.2	7.59
Bacon's Castle	15	90	4	40	58.7	8.58	24	94	11	50	69.1	7.85
Comorn	15	83	5	35	55.3	2.10	16	82	11	52	65.5	4.15
Vienna, (B.)	15	86	5, 6	34	55.0	5.50	21	88	11	48	66.1	.....
Do. (W.)	15	86	4, 6	36	54.8	5.50	22	86	2	48	67.6	4.70
Piedmont	14	83	6	32	52.8	5.15	15	85	12	42	63.4	5.60
Piedmont Station	30	91	5	32	52.4	5.25	20	85	12	42	63.4	5.30
Staunton	23	80	4	34	52.7	3.92	.....	.....	.....	.....	.....	.....
Lexington	15, 23	86	4	38	55.7	4.51	21	91	14	43	66.1	5.49

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
VIRGINIA—Con.		°		°	°	*In.*		°		°	°	*In.*
Lynchburg	25	82	4	39	55.9	.....	22	83	12	48	66.6	2.75
Snowville	28	82	8	29	50.5	5.40	23	88	12	35	60.4	3.60
Near Wytheville	24	80	5	36	52.5	2.80	23	84	12	40	61.5	2.30
Averages	.....	.....	.....	.....	54.4	4.68	.....	.....	.....	.....	65.5	5.02
WEST VIRGINIA.												
Cabell C. H	15	84	3	35	54.8	1.10	30	91	11, 12	38	68.2	0.50
NORTH CAROLINA.												
Kenansville	23	87	5	35	60.6	.....	22	97	12	48	69.2	.....
Goldsboro	23, 25	91	5, 18	40	61.5	3.15	22	94	12	51	71.3	4.85
Warrenton	25	84	4, 5	38	55.3	2.40	17, 24	86	11, 12	48	65.5	4.30
Oxford	25	88	5	40	57.8	3.35	22	86	3	50	66.6	9.75
Chapel Hill	23, 29	89	18	35	59.7	.....	22	92	10, 11, 13	50	69.1	.....
Albemarle	25	90	18	34	57.6	4.02	5	92	13, 14	44	65.4	6.72
Statesville	23	89	4, 7	32	54.0	2.50	17, 21	88	14	42	63.8	4.50
Asheville, (A.)	24	81	17	32	54.3	2.80	22	86	10	45	63.0	6.70
Do. (H.)	23, 24	76	6	30	52.1	.....	21, 22	82	12	36	61.2	.....
Averages	.....	.....	.....	.....	57.0	3.04	.....	.....	.....	.....	66.1	6.14
SOUTH CAROLINA.												
Aiken	24, 25	91	18	34	64.8	.....	.....	.....	.....	.....	.....	.....
Holland's Store	24	93	5	38	65.2	2.10	.....	.....	.....	.....	.....	.....
Gowdeysville	25	90	5, 18	38	62.9	3.82	.....	.....	.....	.....	.....	.....
Bluffton	25	91	18	40	63.4	2.30	17	92	2	60	74.3	2.70
Fort Mill	25	84	18	38	62.2	.....	21	90	12	52	70.3	.....
Averages	.....	.....	.....	.....	63.7	2.74	.....	.....	.....	.....	72.3	2.70
GEORGIA.												
Berne	24	86	6	39	61.9	0.38	17	90	1	56	71.6	1.20
St. Mary's	.....	.....	.....	.....	.....	.....	17	88	15	60	73.0	.....
Penfield	25	90	18	39	61.1	2.05	22	93	13	52	71.2	1.40
Atlanta	25	85	17, 18	32	55.2	2.82	21, 22, 23	92	10, 11, 12	50	65.4	0.68
Columbus	24	83	18	36	62.8	.....	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	60.3	1.75	.....	.....	.....	.....	70.3	1.09
ALABAMA.												
Rockville	24	87	18	34	59.5	1.13	24	94	11, 13	53	69.7	1.88
Carlowville	26	86	17, 18	40	63.3	2.84	22, 23	96	11	60	76.1	0.78
Selma	26	85	18	38	63.2	2.15	21	97	9	56	75.0	0.55
Greene Springs	30	84	18	33	60.1	2.76	.....	.....	.....	.....	.....	.....
Coatopa	22, 23, 24	85	17	38	61.2	3.00	22	97	12	51	72.8	1.00
Fish River	28	80	17	40	.....	.....	30	87	17	63	.....	1.00
Averages	.....	.....	.....	.....	61.5	2.38	.....	.....	.....	.....	73.4	1.04
FLORIDA.												
Port Orange	16	86	18	44	64.0	.....	.....	.....	.....	.....	.....	.....
St. Augustine	.....	.....	.....	.....	.....	.....	3, 17, 18	90	28	60	76.2	.....

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
FLORIDA—Cont'd.		°		°	°	*In.*		°		°	°	*In.*
Jacksonville	25	91	18	39	67.2	3.20	17	95	15	60	75.7	1.50
Pilatka	24, 25	94	18	38	67.9	1.38	.....	.....	.....	.....	.....	.....
Ocala	26	92	5, 6, 7, 18	40	63.4	.....	17	96	10	55	71.4	.....
Orange Grove	28	85	5	50	67.7	2.30	.....	.....	.....	.....	.....	.....
Newport	.....	.....	.....	.....	.....	.....	18	94	14	58	74.2	1.29
Manatee	27	88	5	52	69.7	1.70	.....	.....	.....	.....	.....	.....
Chattahoochee	.....	.....	.....	.....	.....	.....	19	99	7	47	.....	.....
Averages	.....	.....	.....	.....	66.7	2.15	.....	.....	.....	.....	76.9	1.40
TEXAS.												
Gilmer	12	88	1	40	65.4	6,41	21	92	12	57	74.0	2.65
Houston	8	90	15	41	62.3	.....	1	90	26	58	73.6	.....
Palestine	12	88	15, 16, 17	44	67.5	7.25	.....	.....	.....	.....	.....	.....
Oakland	8	92	16	47	73.7	9.05	25	94	15	63	76.7	1.25
Blue Branch	8	88	15, 16	40	66.0	.....	25, 26	89	25	59	73.4	8.80
Lavacca	8	80	16	46	70.2	0.50	25, 26, 27	90	3	68	76.3	0.20
Clinton	8	89	1, 15	48	68.3	3.15	26	95	1	66	77.5	0.10
Austin	8	88	15	42	67.6	2.74	25, 26	94	12	63	75.2	6.98
Lockhart	12, 18	83	16	42	68.5	.....	25, 26, 28, 29	92	7	60	75.1	.....
Averages	.....	.....	.....	.....	67.7	4.85	.....	.....	.....	.....	75.2	3.33
LOUISIANA.												
New Orleans	13	84	1	46	64.0	3.75	22	92	9	61	73.0	1.90
Shreveport	12	86	1	37	63.5	.....	20, 21	92	15	56	75.3	.....
Near Cheneyville	12	82	16	32	67.2	.....	22	92	12	56	78.2	.....
Averages	.....	.....	.....	.....	64.9	3.75	.....	.....	.....	.....	75.5	1.90
MISSISSIPPI.												
Columbus	22	82	18	37	60.7	3.13	22	92	11	52	71.9	6.10
Enterprise	25	91	5.17	38	61.2	3.60	.....	.....	.....	.....	.....	.....
Philadelphia	13	81	18	36	61.1	2.50	22	90	8, 12	54	70.8	1.70
Brookhaven	13	80	16	39	60.7	6.20	23	91	12	48	71.4	1.30
Near Brookhaven	14, 26	86	4, 16, 17	40	61.8	5.40	23	97	12	50	72.0	2.30
Natchez	13, 14	77	16	36	61.0	4.05	21, 22, 23	83	8, 9, 12, 13, 15	60	73.1	0.82
Averages	.....	.....	.....	.....	61.1	4.15	.....	.....	.....	.....	71.8	2.44
ARKANSAS.												
Helena	13, 21, 22	84	16	33	61.3	.....	23	93	7	52	71.8	.....
TENNESSEE.												
Elizabethton	26, 27	88	5	30	53.9	4.90	21	96	14	42	65.9	4.45
Tusculum Coll'ge	24	80	5	36	54.5	2.10	.....	.....	.....	.....	.....	.....
McMinnsville	.....	.....	.....	.....	.....	.....	23	90	15	50	.....	.....
Knoxville	22	83	6	33	55.7	5.40	.....	.....	.....	.....	.....	.....
Lookout Mount'n	24	83	17	31	57.4	.....	23	90	7	50	68.8	.....
Austin	22, 23, 24	86	6, 17, 18, 19	34	57.3	3.25	23	94	13	46	68.5	2.78

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
TENNESSEE—Con.		°		°	°	*In.*		°		°	°	*In.*
Clarksville	22	85	17	30	56.7	2.66	22	88	11	47	65.8	3.76
Trenton	22, 24	84	17, 18	31	59.6	2.00	22	95	13	46	70.2	4.70
Averages					56.4	3.39					67.8	3.92
KENTUCKY.												
Pine Grove	24	82	4, 5	32	53.7	3.93	23	90	8, 10, 11, 12, 13	50	66.2	3.59
Danville	24	90	17, 18	38	58.1	2.99	23	95	11, 12	52	69.9	4.18
Shelby City	24	86	5, 17	34	55.9	2.88	23	90	10, 12	50	67.9	3.45
Near Louisville	24	85	4	32	53.1	3.64	22	93	11	43	66.3	4.71
Averages					55.2	3.46					67.6	3.98
OHIO.												
Salem	24	80	5	34	52.9	2.55	19	90	10, 13	52	65.7	2.40
Steubenville	14	77	8	36	55.0	2.78	19, 21	84	1, 2	50	67.6	3.04
Painesville	24	79	4	30	49.3	5.38	18, 21	82	11	45	62.6	3.06
Gilmore	14, 24	80	4	34	49.4	.....	18	94	10, 11, 12	48	68.2	4.20
Milnersville	14	80	4	27	.....	.....	20	86	13	40	.....	.....
Cleveland	14, 24	82	3, 4	32	48.3	4.38	3	84	10, 11, 12	45	60.1	1.85
Pennsville	.....	.....	.....	.....	.....	.....	23	87	14	50	69.1	.....
Oberlin	24	80	3	30	48.7	2.10	18	88	12	43	67.7	1.35
Kelley's Island	14	74	3, 4, 17	36	48.4	1.89	18	84	7, 8	51	63.9	1.27
Sandusky	24	81	3, 4	36	49.7	2.52	18	85	11, 29	50	71.7	2.17
North Fairfield	24	84	3	33	51.6	1.73	3, 18	84	13	46	64.2	2.63
Gambier	24	76	4, 6	34	49.8	0.56	23	84	10, 12	49	68.0	1.15
Westerville	24	85	17	34	52.6	1.14	18, 19	89	10	46	66.7	0.77
Williamsport	24	85	2	27	53.6	3.70	20	93	1	43	69.8	1.83
N. Bass Island	27	80	4, 5	35	47.5	1.58	16	87	7	51	63.0	1.57
Marion	24	80	4	31	50.2	1.63	18	87	13	46	68.8	1.36
Hillsboro'	24	78	4	33	52.3	2.78	23	86	10, 11	47	65.1	1.88
Toledo	14, 23, 24, 27	81	4	31	50.8	2.00	.....	.....	.....	.....	.....	.....
Bowling Green	24	86	4	32	53.1	3.30	3	91	10, 12	48	65.9	1.90
Kenton	28	66	4, 18	36	47.2	2.55	23	90	1, 4	50	68.1	1.35
Urbana Univ	24	84	4, 17	32	53.8	1.14	18	89	12	46	65.6	0.68
Springfield	24	84	16, 17	35	54.4	1.60	21	89	8, 11	50	68.7	0.45
Bethel	24	83	4, 5	33	52.4	2.75	23	91	13	47	65.9	2.25
Jacksonburg	24	84	4, 17	32	54.1	1.15	18, 21, 22	88	10, 13	46	67.2	0.40
Mt. Auburn Inst.	24	82	4, 17	34	55.5	1.33	22	88	10, 11, 12	51	71.0	1.82
Cincinnati, (H.)	24	84	4, 17	34	54.4	1.59	22	92	11	49	68.0	1.74
Do (P.)	24	84	18	35	55.5	1.42	23	94	11	50	70.7	1.90
College Hill	23, 24	84	4, 5	31	54.0	2.38	22, 23	90	9, 10	50	71.2	1.18
Averages					51.7	2.24					67.1	1.77
MICHIGAN.												
Detroit	24	82	4	33	49.7	0.96	16, 31	86	9	46	62.5	1.26
Monroe City	14, 24, 27	82	17	35	52.8	1.03	16	89	12	48	64.7	1.71
Ann Arbor	.....	.....	.....	.....	.....	.....	3, 18	85	12	47	62.9	1.70
Adrian	24, 27	82	4, 16, 17	29	45.3	5.94	3	90	12, 24	42	59.1	6.71

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
MICHIGAN—Con'd.		°		°	°	*In.*		°		°	°	*In.*
Alpena	23, 26	54	3	29	40.1	1.84	19	76	1, 6, 7, 11	42	52.3	1.73
State Ag'l College	23, 27	83	4, 5	30	50.4	2.02	14	88	24	44	64.3	1.16
Litchfield	24	82	16	27	50.5	2.58	18	89	8	46	62.3	2.30
Coldwater	24	84	7, 16, 17	26	49.4	2.38	18	87	13	40	61.7	1.31
Gra'd Rapids, (H.)	27	82	16, 17	30	51.5	.....	.....	.....	.....	.....	.....	.....
Do.....(S.)	27	77	16	30	49.8	1.88	.....	.....	.....	.....	.....	.....
Northport	14	81	8	30	45.0	3.88	15	82	9, 24	44	57.5	3.63
Benzonia	23	72	5	26	45.1	.....	31	92	8, 12	42	60.1	.....
Muskegon	27	80	5	30	54.5	.....	17	90	9	48	68.1	1.00
Otsego	13, 14, 22, 26	85	4, 5, 7	30	53.6	.....	15	98	10	42	66.7	.....
Copper Falls	.....	.....	.....	.....	.....	.....	30	79	16	36	55.5	0.90
Ontonagon	12	72	2, 3, 4, 8	30	43.4	.....	30, 31	90	16, 25	46	58.4	.....
Averages	.....	.....	.....	.....	48.7	2.50	.....	.....	.....	.....	61.2	2.13
INDIANA.												
Aurora	24	88	4, 5, 17	32	54.7	1.92	.....	.....	.....	.....	.....	.....
Vevay	23	86	5	31	55.4	2.37	22	90	9	46	66.8	2.37
Mount Carmel	24	82	18	32	52.7	1.83	22	87	9	45	65.7	1.00
Muncie	24	84	16	29	53.3	1.60	5, 17, 22	88	11	44	66.5	1.85
Spiceland	24	84	17	31	53.1	1.59	22	94	10, 11, 12	45	67.6	0.51
Laconia	24	87	17	32	56.5	2.78	22	92	10	46	66.1	6.50
Columbia City	24	85	17	24	53.3	2.31	18	90	10	48	67.5	.....
Knightstown	24	86	17	31	53.1	1.66	22	91	12	45	67.5	0.85
Indianapolis	24	82	16	31	53.4	1.94	22	90	12	42	67.3	0.56
Near La Porte	13, 24, 27	84	16	29	52.5	5.45	17	94	11	45	67.4	0.65
Rensselaer	23, 27	82	16	30	53.2	1.25	.....	.....	.....	.....	.....	.....
Merom	23	82	16	31	55.6	1.13	22	88	12	45	68.5	1.60
New Harmony	23	86	17	33	56.7	2.72	22	91	11	50	68.4	1.72
Harveysburg	23	80	17	24	53.1	2.40	22	88	10, 11, 29	40	60.7	1.70
Averages	.....	.....	.....	.....	54.0	2.21	.....	.....	.....	.....	66.2	1.61
ILLINOIS.												
Chicago	13	80	16	33	52.2	1.15	3, 15	85	7, 11	47	65.5	0.80
Near Chicago	24	82	16	28	45.5	.....	3	88	10	42	61.1	.....
Evanston	13	79	16	33	47.1	1.20	.....	.....	.....	.....	.....	.....
Marengo	24	86	17	24	49.8	1.37	16, 31	88	10	42	63.6	0.54
Charleston	23	86	16	31	54.0	1.92	22	89	10, 12	45	66.2	2.63
Mattoon	13, 14, 23	80	5, 16, 17	32	53.4	1.63	22	85	12	45	66.9	2.63
Aurora	24	83	16	29	50.9	1.58	3	86	11, 12	46	64.5	1.35
Louisville	23, 24	88	4, 5	32	56.8	2.50	21, 22	92	12	40	69.5	3.00
Golconda	24	92	18	26	55.9	3.80	17. 22	97	7	40	64.7	2.00
Belvidere	23	86	16	27	51.7	0.69	17	91	7, 9, 11	46	65.2	1.10
Sandwich	23	85	4, 16	31	52.1	2.20	.....	.....	.....	.....	.....	.....
Ottawa	24	87	16	33	54.3	0.85	22	93	11	46	68.5	1.15
Decatur	23	86	5	31	53.4	1.30	18, 22	90	10	45	66.2	0.80
Pana	23	83	15, 17	32	54.9	0.90	22	90	12	46	67.0	0.90
Winnebago	24	85	16, 17	26	50.8	1.32	17	88	7, 10	45	65.4	1.25
Rochelle	23, 24	84	17	28	52.3	.....	22	90	11, 12	43	63.4	.....

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
ILLINOIS—Cont'd.		°		°	°	*In.*		°		°	°	*In.*
Wyanet	24	88	16, 17	26	51.0	0.60	22	90	8, 10	40	65.0	1.42
Tiskilwa	13	86	16, 17	28	53.1	.....	3, 22	90	6, 13	44	65.4	.....
Hennepin, (S.)	23	84	4	28	53.0	.....	22	92	8, 10	40	61.0	.....
Do. (O.)	23	89	4, 11, 16	30	55.8	.....	22	93	10	44	63.6	.....
Peoria	23	86	17	31	55.6	0.45	22	92	10	45	68.3	1.62
Springfield	.....	.....	.....	.....	.....	.....	22	93	10, 12	46	67.9	.....
Dubois	23	88	16, 17	32	53.9	2.93	21	92	11	42	67.2	2.53
Manchester	24	86	16	28	55.2	1.95	16	86	12	45	66.2	1.59
Mount Sterling	14	82	16	31	56.8	1.20	22	88	10	48	72.3	1.40
Andalusia	23, 24	82	16, 17	29	52.6	.....	22	86	28	46	65.8	.....
Augusta	14	83	16, 17	29	55.8	0.63	3	87	10	47	64.5	1.73
Warsaw	23	92	16	29	57.2	0.83	3	94	10	48	67.1	1.97
Averages	.....	.....	.....	.....	53.2	1.48	.....	.....	.....	.....	65.8	1.60
WISCONSIN.												
Sturgeon Bay	23	77	6	27	45.4	1.25	15	85	9, 24	43	59.4	2.40
Manitowoc	23	70	16	31	46.8	0.58	19	81	10	44	58.3	2.45
Hingham	14	78	16, 17	32	47.8	.....	16	87	7, 11	40	61.3	.....
Milwaukee	13	80	16, 17	28	47.0	0.51	3	88	8	41	59.4	0.63
Appleton	14	74	16	33	51.0	.....	3	80	25	46	63.4	.....
Geneva	23	84	4	28	49.8	0.15	16	90	7	45	64.4	0.20
Waupacca	14, 23	80	16, 17	30	51.8	.....	3, 15	87	25	47	65.1	.....
Embarrass	14	82	4	27	48.6	0.81	1	84	26	44	61.3	4.52
Rocky Run	13	83	16	28	51.8	0.16	17	88	10	46	65.5	2.50
Madison	23	79	16	25	49.7	0.19	17	85	10	45	64.7	1.09
Edgerton	23	89	17	30	54.3	.....	30	96	10	48	68.4	0.50
Mosinee	13, 14, 23	78	4	25	46.5	2.70	3	86	8, 9	41	59.6	11.30
Baraboo	23	86	4, 17	26	49.9	0.75	3	92	8	32	67.2	8.88
New Lisbon	23	86	16	20	51.2	.....	3	90	9	46	64.1	.....
Bayfield	22	72	4	24	40.8	.....	14	84	12, 16	38	54.6	.....
Averages	.....	.....	.....	.....	48.8	0.79	.....	.....	.....	.....	62.4	3.45
MINNESOTA.												
Afton	23	87	4	24	50.1	1.10	17	88	9	46	66.1	5.20
St. Paul	13, 23	83	15	27	51.2	1.38	17	89	9	47	65.0	5.24
Minneapolis	23	84	15	23	49.3	1.04	3	91	9	44	62.8	3.95
Sibley	23	80	15	18	50.4	0.17	3	85	10	43	69.1	2.78
Koniska	13	82	15	19	48.4	0.40	27	85	24	40	61.9	3.20
New Ulm	23	82	15	19	50.5	0.56	3, 17, 30	86	12	44	64.6	3.70
Madelia	23	85	15	18	50.4	1.31	30	90	9	44	66.1	5.61
Averages	.....	.....	.....	.....	50.0	0.85	.....	.....	.....	.....	65.1	4.24
IOWA.												
Clinton	24	85	16, 17	28	51.1	0.50	21	86	10, 11	40	63.9	3.25
Waukon	23	84	16	22	50.5	.....	4, 17	86	10	43	63.1	.....
Dubuque	13, 24	82	16	28	52.9	0.40	3, 16, 17, 22	87	9	48	67.0	3.71

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
Iowa—Cont'd.		°		°	°	*In.*		°		°	°	*In.*
Monticello	24	89	16, 17	26	53.4	1.05	30	90	8, 9, 10, 11	50	67.8	4.11
Bowen's Prairie	23, 24	86	16	24	52.5	1.50	16, 17, 30	88	8, 9, 10, 11, 12, 13	46	64.7	4.00
Fort Madison	24	84	17	26	53.7	0.91	22	99	12	41	66.9	1.53
Guttenberg	23	88	16	23	49.1	.....	17	91	9	42	66.8	.....
Mount Vernon	24	90	16	24	52.5	.....	3	87	12	44	65.6	.....
Iowa City	23	90	16	24	53.5	0.25	21	89	10	44	65.5	3.00
Independence	23, 24	87	15, 16	25	52.2	0.15	17	91	9	47	67.0	2.20
Near Independ'ce	24	88	15, 16	25	54.2	0.40	4, 17	86	11	47	66.6	3.10
Waterloo	24	88	16	20	50.2	.....	4, 15, 17	87	8	40	65.6	2.30
Rockford	24	83	16	27	53.2	.....	15, 16, 17	85	10	45	66.8	.....
Iowa Falls	23	84	15, 16, 17	26	52.9	0.81	14, 16	88	12	44	69.8	4.43
Algona	23	80	15	19	47.3	.....	16, 17	83	7	43	62.6	.....
West Bend	23	82	15	17	47.8	.....	.....	.....	.....	.....	.....	.....
Webster City	.....	.....	.....	.....	.....	.....	4, 30	85	9	44	64.5	2.03
Boonesboro	23	84	15	18	49.9	1.35	3, 15	85	9, 10	44	65.3	3.43
Fontanelle	24	87	15	20	53.2	1.10	15, 17, 21	87	9, 10	45	65.7	3.25
Grant City	13, 22	84	15	18	50.2	.....	15	92	9	45	67.3	5.20
Sac City	13, 23	82	15	18	39.7	.....	15	85	8, 9, 10	46	63.8	.....
Logan	12, 13, 21, 24	82	17	16	50.1	0.40	4	85	12	39	64.2	2.00
Woodbine	13, 23	82	16	20	50.2	0.14	17, 30	87	9, 24	42	64.9	4.06
West Union	23	84	16	22	54.1	0.44	17, 18, 19, 30	86	9, 10	46	66.2	2.42
Averages	.....	.....	.....	.....	51.1	0.67	.....	.....	.....	.....	65.7	3.18
Missouri.												
St. Louis Univ	24	84	16	28	56.4	2.39	21, 22	89	6, 7, 10, 11	50	67.9	2.05
Allenton	23	93	16	28	56.0	2.60	21	96	10	44	67.0	2.57
Hematite	23	91	16, 17	30	57.3	2.55	22	95	11	48	69.7	1.25
Hannibal	14	85	17	30	54.8	1.48	21, 22	88	10	48	67.7	1.30
Rolla	23	89	17, 18	26	53.4	2.64	21	91	10	43	69.2	0.68
Jefferson City	25, 26	83	17	27	52.7	.....	21	91	7	46	67.0	.....
Kansas City	21	88	16	25	57.1	0.25	21	89	12	44	67.1	4.25
Harrisonville	21, 22	88	15, 16, 17	30	57.8	0.63	21	90	6, 7	48	68.1	1.18
St. Joseph	21, 22	85	15, 16	31	59.6	2.20	21	89	6, 7	49	69.1	3.80
Oregon	21, 22	88	16	20	56.0	1.99	21	89	6, 9	44	67.7	2.70
Corning	23	86	16	22	54.8	2.10	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	56.0	1.88	.....	.....	.....	.....	68.1	2.20
Kansas.												
Atchison	21	90	16	24	56.1	1.75	21	90	6	43	70.7	3.30
Leavenworth	.....	.....	.....	.....	.....	.....	18	90	6	45	67.3	6.16
Olathe	22	89	16	22	55.0	1.20	21	92	7	45	67.5	7.15
Paola	13, 22	88	16	24	57.0	0.68	21	90	12	45	67.8	2.00
Baxter Springs	12	86	16, 17	32	59.4	2.80	21	94	10, 11	50	71.7	2.80

Table showing the range of the thermometer, &c., for April and May—Continued.

States and stations.	April, 1870.						May, 1870.					
	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.	Date.	Max. temp.	Date.	Min. temp.	Mean temp.	Rain and melt'd snow.
KANSAS—Cont'd.		°		°	°	*In.*		°		°	°	*In.*
Lawrence	21	89	16	23	56.8	1.08	18, 21	89	6	45	68.0	2.46
Holton	21	91	16	22	57.4	.....	2, 21	91	6	46	69.0	3.44
Neosho Falls	22	87	16	24	53.4	2.00	.....	.....	.....	.....	.....	.....
Le Roy	21	86	16	23	55.8	2.39	.....	.....	.....	.....	.....	.....
State Ag'l College	21	85	16	19	53.5	0.50	21	93	8	49	68.8	0.91
Council Grove	21, 22	89	16	24	57.3	1.65	18, 21, 28	90	8	46	69.1	2.30
Averages	.....	.....	.....	.....	56.2	1.56	.....	.....	.....	.....	68.9	3.39
NEBRASKA.												
Omaha Mission	23	84	16	18	51.8	1.00	14, 15	88	6	43	65.7	7.63
De Soto	12, 13, 21	83	16	18	52.9	0.62	2	86	10	43	65.0	4.95
Bellevue	21	88	16	23	54.4	2.70	4, 17, 21	85	6	48	67.5	5.80
Nebraska City	21	89	16	22	55.7	2.00	21, 28	89	6	48	67.8	2.80
Lincoln	12	84	16	23	51.7	2.40	.....	.....	.....	.....	.....	.....
New Castle	.....	.....	.....	.....	.....	.....	18	94	12, 26	43	65.6	.....
Averages	.....	.....	.....	.....	53.3	1.74	.....	.....	.....	.....	66.3	5.31
UTAH TERRITORY.												
G't Salt Lake City	21	78	15, 30	30	51.4	.....	.....	.....	.....	.....	.....	.....
CALIFORNIA.												
Monterey	26	76	5, 14	37	54.2	1.44	.....	.....	.....	.....	.....	.....
Chico	18, 24, 26	87	13	38	60.7	0.85	7, 8, 9	98	17	40	68.2	0.75
Watsonville	16, 25	80	5	32	56.0	1.21	.....	.....	.....	.....	.....	.....
Vacaville	18, 24, 26	80	4, 5	42	57.3	0.84	.....	.....	.....	.....	.....	.....
Cahto	18, 26	80	4	35	53.8	6.00	7	95	2, 13	41	60.3	2.25
Visalia	19, 26	87	5	38	60.5	1.40	7	100	17	47	69.1	0.30
Clayton	18	86	13	42	59.2	1.36	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	57.4	1.87	.....	.....	.....	.....	65.9	1.10
MONTANA TERR'Y.												
Deer Lodge City	25	76	14	16	45.6	1.47	10, 11, 12	85	30, 31	32	51.8	3.55
COLORADO TERR'Y.												
Denver	12	80	15	16	48.1	2.80	14, 29	86	1, 5	40	56.1	0.35
WASHINGTON TER.												
Port Angelos	28	58	12	42	47.7	3.25	.....	.....	.....	.....	.....	.....
Seattle	25, 29	82	10, 12	40	52.0	.....	.....	.....	.....	.....	.....	.....
Cathlamet	24, 25	77	12, 15, 22	39	49.3	.....	.....	.....	.....	.....	.....	.....
Averages	.....	.....	.....	.....	49.7	3.25	.....	.....	.....	.....	.....	.....
OREGON.												
Portland	25, 27	80	23	41	53.6	4.30	9	87	29	44	59.2	1.95
Eola	25	72	23	33	47.0	5.52	8, 9	76	16	38	52.3	2.46
Averages	.....	.....	.....	.....	50.3	4.91	.....	.....	.....	.....	55.8	2.21

STATE AVERAGES FOR APRIL AND MAY, 1870.

Table of the highest and lowest temperatures (with dates prefixed) in the several States, &c., named, with the average mean temperature and rain-fall (including melted snow) in each, for the months of April and May, 1870.

States.	April, 1870.						May, 1870.					
	Date.	Highest temperature.	Date.	Lowest temperature.	Average mean temperature.	Average moisture.	Date.	Highest temperature.	Date.	Lowest temperature.	Average mean temperature.	Average moisture.
		°		°	°	*In.*		°		°	°	*In.*
Maine	28	80	1	20	44.1	4.58	30	96	4	32	54.0	1.80
New Hampshire	28	87	1	20	45.5	3.78	16	87	7	31	55.6	2.03
Vermont	28	77	1	23	45.2	2.69	30	88	13	34	56.4	1.48
Massachusetts	28	86	4	28	46.4	5.71	19	90	11	38	57.2	2.33
Connecticut	28	81	3, 4	31	48.3	4.63	16	92	2, 11	40	59.4	2.08
New York	28	86	4	23	48.0	3.03	15	93	30	30	61.7	2.05
New Jersey	15	86	5	31	51.4	5.58	16, 25	88	1	43	62.5	5.10
Pennsylvania	15	98	4, 8	26	50.8	4.61	18, 19	89	2	34	62.5	4.31
Maryland	15	87	4	31	53.4	5.58	16	88	11	47	64.8	4.96
Virginia	30	91	8	29	54.4	4.68	24	94	12	35	65.5	5.02
North Carolina	23, 25	91	6	30	57.0	3.04	22	97	12	36	66.1	6.14
South Carolina	24	93	18	34	63.7	2.74	17	92	12	52	72.3	2.70
Georgia	25	90	17, 18	32	60.3	1.75	22	93	10, 11, 12	50	70.3	1.09
Alabama	24	87	18	33	61.5	2.38	21, 22	97	12	51	73.4	1.04
Florida	24, 25	94	18	38	66.7	2.15	19	99	7	47	76.9	1.40
Texas	8	92	1, 15, 16	40	67.7	4.85	26	95	12	57	75.2	3.33
Louisiana	12	86	16	32	64.9	3.75	20, 21, 22	92	12, 15	56	75.5	1.90
Mississippi	25	91	16, 18	36	61.1	4.15	23	97	12	48	71.8	2.44
Tennessee	26, 27	88	5, 17	30	56.4	3.39	21	96	14	42	67.8	3.92
Kentucky	24	90	4, 5	32	55.2	3.46	23	95	11	43	67.6	3.98
Ohio	24	86	2, 4	27	51.7	2.24	18, 23	94	13	40	67.1	1.77
Michigan	13, 14, 22, 26	85	5, 7, 16, 17	26	48.7	2.50	15	98	16	36	61.2	2.13
Indiana	24	88	17	24	54.0	2.21	17, 22	94	10, 11, 29	40	66.2	1.61
Illinois	23, 24	92	17	24	53.2	1.48	17, 22	97	7, 8, 10, 12	40	65.8	1.60
Wisconsin	23	89	16	20	48.8	0.79	30	96	8	32	62.4	3.45
Minnesota	23	87	15	18	50.0	0.85	3	91	24	40	65.1	4.24
Iowa	23, 24	90	17	16	51.1	0.63	15	92	12	39	65.7	3.18
Missouri	23	93	16	20	56.0	1.88	21	96	10	43	68.1	2.20
Kansas	21	91	16	19	56.2	1.56	21	94	6	43	68.9	3.39
Nebraska	21	89	16	18	53.3	1.74	18	94	6, 10	43	66.3	5.31
California	18, 19, 24, 26	87	5	32	57.4	1.87	7	100	17	40	65.9	1.10
Dist. of Columbia	15	80	5	35	53.8	3.70	4, 16	81	3, 11, 12, 23	54	64.5	4.79

Houlton, Me.—Ice gone 14th; auroras 18th, 24th, 27th; frogs 28th.

Steuben, Me.—Robins, frogs 9th; freshet 21st; brilliant aurora 25th.

Orono, Me.—Ice out of Penobscot 8th; arbutus 15th; aurora 25th; month 4° warmer than last April; season a fortnight earlier.

Williamsburg, Me.—Robins 13th; frogs 26th; thunder 30th.

West Waterville, Me.—Robins 1st; frogs 15th; sparrows 19th; swallows 22d; thunder-shower 28th. Month 4°.08 above April average of six years.

Gardiner, Me.—Auroras 1st, 2d, 6th, 7th, 8th, 15th, 22d, 23d, 25th; stormy 3d to 7th. Warm, moist month, 3°.18 above April average of thirty-four years, (41°.59.) Season about two weeks earlier than last year.

Lisbon, Me.—Robins, aurora 7th; frogs 14th; lightning and rain 15th.

Norway, Me.—Auroras 2d, 7th; snow, then rain, 3d, 4th; robins 8th; bluebirds 9th; frogs 18th; thunder-shower 28th; grain sowed 29th. April mean temperature, 1868, 37°.85; 1869, 40°.90; 1870, 44°.62.

Cornish, Me.—Auroras 2d, 25th; robins 2d; bluebirds 6th; sparrows 8th; snow, rain 20th, 21st; red-maple blossoms 23d; swallows 26th.

Cornishville, Me.—Average April temperature for forty years 39°.75; this 45°.31. Moisture since October 1, 1869, 46.35 inches.

Antrim, N. H.—First thunder-storm 28th; snow on six, rain on thirteen days.

Stratford, N. H.—Robins 9th; adders' tongue 27th. Last of month dry and pleasant; but little sugar made in April.

Whitefield, N. H.—Auroras 1st, 21st, 25th; buttercups, violets 28th.

Tamworth, N. H.—Aurora 1st; robins 2d; twenty inches snow on ground 10th; sleighing gone 13th; frogs 21st; end of one hundred and two hours' rain 22d.

North Craftsbury, Vt.—Warm, dry month; drought growing severe.

Newport, Vt.—Auroras 1st, 2d, 5th, 25th, 26th, 28th; robins 6th; frogs 14th.

Woodstock, Vt.—Bright auroras 2d, 8th; eight inches snow on hills 21st.

West Charlotte, Vt.—Splendid aurora 3d; lake opened 12th; snow gone 17th; first dew 18th; kingfisher 24th; spring wheat up 28th.

Panton, Vt.—Phebe birds (*Sayornis fuscus, Baird,*) sparrows 9th; frogs 13th; aurora 29th.

Castleton, Vt.—Planted potatoes 9th; auroras 25th, 28th.

Kingston, Mass.—Frogs 5th; lightning and thunder 28th; peach blossoms 29th. Of nineteen Mondays past fifteen have been rainy.

Topsfield, Mass.—Snow, rain, gale, hail 4th; aurora 23d; frost 29th.

North Billerica, Mass.—Robins, sparrows 2d; rain and snow 4th; frogs 5th; swallows 15th; frosts 26th, 30th; thunder and lightning 28th.

New Bedford, Mass.—Wild geese 7th; dandelions 22d; peach blossoms 30th.

Worcester, Mass.—Snow and rain 3d, 4th, 6th; dandelions 14th; thunder and lightning 25th; arbutus, liverwort 26th; thunder-shower 28th.

Mendon, Mass.—Aurora 25th; thunder-shower 28th. Potatoes planted.

Lunenburg, Mass.—Thunder-storm 28th; ground dry 30th. April average for thirty years, 44°.73; in 1869, 45°.51; in 1870, 47°.07.

Williamstown, Mass.—Liverwort 14th; arbutus, dandelion 15th; damaging flood 19th; slight aurora 25th.

Newport, R. I.—Rain 2d; snow 3d; rain 4th; white frost 30th.

Middletown, Conn.—Brilliant aurora 15th; thunder-shower 28th.

Southington, Conn.—Gardening and plowing 8th; snow drifts gone 14th; aurora 24th; thunder-showers 28th.

Colebrook, Conn.—Snows, slight, 3d and 4th; three inches 6th; heavy rain 18th.

Moriches, N. Y.—Rain 2d, 3d, mixed with snow 4th, 5th, 6th; aurora 25th; vivid lightning, thunder with some rain 28th.

Poughkeepsie, N. Y.—Auroras 1st, 25th, 29th; thunder-storm 28th.

Garrisons, N. Y.—Storm 3d to 6th; frost 30th.

New York City.—Snow, rain, sleet, snow 4th, 5th, 6th; aurora 25th; gale, then hail and thunder-shower, 28th.

Newburg, N. Y.—No "April showers;" only one thunder-shower.

Bannerville, N. Y.—Auroras 1st, 26th, 29th; freshets 16th to 25th.

Gouverneur, N. Y.—Blackbirds 1st; ice out of Oswegatchie 8th.

North Hammond, N. Y.—Robins 1st; St. Lawrence open 11th; frogs 12th; snow 21st; swallows 26th. Season dry, backward; little grain sowed.

Houseville, N. Y.—Auroras 2d, 7th, 28th; snow nearly gone 9th.

Leyden, N. Y.—Magnificent red aurora, equal to that in 1839, but less extent and duration, 7th; pewees 9th; liverwort, frogs 17th; thrush 23d. Warm and pleasant April; snow gone by 15th without freshets.

Utica, N. Y.—Auroras 1st, 2d, 7th, 21st, 27th, 28th, magnificent 25th; ice 8th, 9th, 26th; swallows 16th. Little rain, no thunder, no lightning; solar spots visible every clear day; vegetation forward.

South Trenton, N. Y.—No rain till 27th, then showers till 22d. No thunder yet this year.

Cazenovia, N. Y.—Frosts 26th, 29th, 30th; auroras 25th, 28th.

Depauville, N. Y.—Auroras 1st, 2d, 3d, 7th, 12th, 21st, 22d, 23d, 25th, 28th; robins 1st; pewees 4th; sleighing gone 6th; frogs 14th; blackbirds 21st.

Palermo, N. Y.—Last sleighing 1st; pewees 9th; wrens 22d; daffodills 25th; barn swallows 26th. Warmest April in seventeen years.

Nichols, N. Y.—Snow gone 6th, drifts 20th; freeze 29th, 30th. Month ended cold and dry. From October to May snow-fall was 99.5 inches.

Himrods, N. Y.—Rains 17th to 20th, raised Crooked Lake ten inches; auroras 16th, 21st, 25th.

Little Genesee, N. Y.—Frogs 13th; snow gone 17th; thunder-shower 24th.

Buffalo, N. Y.—Lake Erie open 16th; thunder 24th. Month 4° warmer than average of twelve years; vegetation a fortnight earlier than last year.

Newark, N. J.—Cloudy till 7th; bright aurora 25th; thunder-gust 28th. Month nearly 2°.5 warmer than average of twenty-six Aprils—warmest, 1844, 54°.31; coldest, 1857, 43°.40. Average rain in twenty-six Aprils, 3.609 inches.

Rio Grande, N. J.—Bright red and white aurora 23d; thunder-shower 28th.

Moorestown, N. J.—On 15th mercury at 82°, at 2 p. m.; an east wind reduced it 20° in thirty minutes, and 38° in a few hours; thunder, rain, hail 28th.

New Germantown, N. J.—Thunder-shower 18th, with hail 29th; auroras 24th, 25th; plowing for corn 30th.

Newfield, N. J.—Five days' storm ended in two inches snow on 5th; birds and frogs gleeful 9th; red-maple blossoms 14th, peach 20th; auroras 24th, 25th.

Greenwich, N. J.—Rain, hail, snow 30th ultimo to 5th; peach blossoms

13th, pears 21st; fire-flies 23d; thunder and lightning 28th; corn-planting 29th.

Vineland, N. J.—Snow 4th; peach blossoms 6th; bluebirds 7th; thunder and lightning 17th, heavy rain 18th.

Nyces, Pa.—Swallows (ten inches snow yet) 8th; thunder-storm 28th.

Dyberry, Pa.—Ice eighteen inches under six inches snow on a pond 7th; liverwort 10th; frogs 11th; thunder-shower 28th; winter and spring snow-fall, ninety inches.

Fallsington, Pa.—Gale, rain 1st to 3d, snow 4th, rain 5th; aurora 24th; thunder, hail, rain 28th, 29th.

Philadelphia, Pa.—Rain 1st to 3d; snow 4th; lightning 17th; thunder 28th.

Horsham, Pa.—Aurora 25th; heavy thunder-storm, first of season, 28th.

Plymouth Meeting, Pa.—Hail, snow-squalls 4th; heavy rain 18th; frosts 26th, 30th, ice 20th; peach blossoms 22d, plum 27th, pear 28th.

White Hall, Pa.—Six inches snow 5th; maple full bloom 13th; peach, cherry 29th; frosts 26th, 30th; swallows 27th; hail 28th.

Factoryville, Pa.—Snow, rain, then fourteen inches snow, 4th, 5th; aurora 8th; lightning 17th; frosts 26th, 27th. A pleasant month for farmers.

Reading, Pa.—Snow, rain 1st to 5th; thunder-storms 17th, 18th, 28th.

West Chester, Pa.—Bloodroot 12th; heavy thunder-showers 17th; ice 20th.

Parkersville, Pa.—Snow, rain 4th, 5th; smoky 5th to 17th and 22d to 29th.

Ephrata, Pa.—Snow 4th, 5th; aurora 5th; thunder-showers 17th, 28th.

Ashland, Pa.—Six inches snow 4th; thunder-storm 28th; frost, ground frozen, flowers killed 29th.

Harrisburg, Pa.—High waters 3d, 19th; mercury fell 40° in twenty-four hours 15th, 16th.

Carlisle, Pa.—Oats sowed 9th; thunder-shower 28th; corn-planting 30th.

Tioga, Pa.—Sowed oats 14th; highest water ever known here 18th.

Grampian Hills, Pa.—Plowing 9th; snow in woods gone 17th. A dry April.

Franklin, Pa.—Very dry, vegetation forward, no thunder yet.

Pittsburg, Pa.—Month cloudy, short rains, no hard freeze.

Brownsville, Pa.—Gardening 12th; birds singing 25th. Wheat beautiful.

New Castle, Pa.—Slight snow 8th. Pleasant month; good fruit prospect.

Beaver, Pa.—Vegetation a fortnight earlier than last year.

Canonsburg, Pa.—Snow 4th to 6th; peach blossoms 16th, dandelion 20th, dogwood 25th, pear 26th, quince 29th.

Milford, Del.—Rainy to 3d; to 6th snow, hail, freeze; thunder-showers 17th, 28th; apple blossoms 28th, strawberry 30th.

Woodlawn, Md.—Aurora 5th; peach blossoms 16th, cherry 23d, pear 27th, apple 28th; frosts 30th, with ice 20th; whippoorwill 29th.

Emmittsburg, Md.—Snowy all day 4th; thunder-storm 28th; rain 29th.

Johnsontown, Va.—Showers 1st to 5th; frost 6th, 26th; plum blossoms 1st, cherry 11th, pear 15th; thunder 25th, lightning 28th, thunder-shower 29th.

Hampton, Va.—Wet month; eighteen cloudy and eleven rainy days last frost, 30th ultimo.

Zuni Station, Va.—Aurora 25th. Fruit, except peaches, promising.

Bacon's Castle, Va.—Rain, hail, snow to 6th; martins 7th; apple blossoms 9th, pear 13th; corn planted 15th, up 27th. April mild and wet.

Comorn, Va.—Frosts heavy 6th, light 26th; corn-planting 13th.

Vienna, Va.—Two inches snow 4th; maple blossoms 11th, peach 15th; whippoorwill 30th. Season ten days forward.

Piedmont, Va.—Five inches snow 4th, ice 6th, frost 8th, 26th, hail 18th; peach full bloom 20th, apple 30th; aurora 25th; thunder-gust 28th.

Snowville, Va.—Much melting snow 18th; thunder 28th, 29th.

Wytheville, Va.—Five rainy days, ended in snow on 4th; ground frozen 5th; severe snow storms 17th, 18th; peach blossoms 23d; cherry 25th; apple 27th.

Oxford, N. C.—Slight snow, melted as it fell, 4th.

Chapel Hill, N. C.—Hail, then snow, then rain, 18th; unusual cold and wet.

Albemarle, N. C.—Apple blossoms 15th; thunder 17th, 27th, with rain 28th; snow sprinkle 18th; a dry month.

Statesville, N. C.—Snow whitens ground 17th; light frosts 18th to 20th.

Aiken, S. C.—Hail, thunder 3d; white frost 4th; hail 17th.

Holland's Store, S. C.—Whippoorwill 2d; slight hail 3d; martins 11th; snow, sleet, hail, rain 17th; ice 18th.

Gowdeysville, S. C.—Light frost 4th; thunder and rain 9th, 10th, 27th to 29th; rain, hail, sleet (and snow in places) 17th.

Bluffton, S. C.—Month dry, smoky; cold about 18th; ice some places.

Berne, Ga.—Frost bit early corn, cotton, &c., 6th; thunder shower 29th.

Penfield, Ga.—Frost 5th; snow 17th, just like one in April, 1849.

Columbus, Ga.—Dogwood 1st; light frosts 5th to 7th; heavy thunder and lightning 8th; cicada (locust) heard 11th; fire-fly 28th; tree tulips and roses 30th.

Rockville, Ala.—Fire-fly 10th; whippoorwill 12th; snow flurry 17th; humming birds frozen, fruit killed 18th; frost, ice 19th; wheat heading 26th.

Carlowville, Ala.—Ice 18th, kills early fruits and vegetables; cotton up 30th.

Coatopa, Ala.—Heavy frost 18th; thunder showers 28th, 29th.

Greene Springs, Ala.—Light snow 17th; cold to 19th; killed all the peaches.

Jacksonville, Fla.—April comparatively cold and dry; delayed growth.

Pilatka, Fla.—Month cold and dry; breeze on 18th prevented frost.

Ocala, Fla.—Ground dried eight inches deep, till copious rain saved crops 30th.

Gilmer, Texas.—Month cool, six frosts, seven thunder showers.

Houston, Texas.—Frost 15th; thunder, lightning 14th, 24th, 25th, 26th.

Oakland, Texas.—Wild geese 2d; whippoorwill 11th; thunder storm, hail 15th; frost 16th; heavy thunder, with showers, 23d, 26th.

Clinton, Texas.—Frost 16th; thunder storms 25th, with hail 27th, (some as large as hens' eggs,) ten miles west of this place, destroying crops, fowls, &c.

New Orleans, La.—Martins 1st; fire-flies 6th; thunder storm, with gale, hail, deluge 8th; fires comfortable 16th.

Natchez, Miss.—Frosts, light 1st, 17th, 18th, heavy 16th; tremendous thunder-storm, with hail and gale 9th.

Brookhaven, Miss.—Frosts 1st, 2d, 16th to 18th; whippoorwill 1st; thunder showers 8th, 9th; fire-flies 17th; ripe strawberries 21st; peas 27th.

Enterprise, Miss.—Planting corn 3d, cotton 30th; chuck-wills-widow 9th; frost and ice 17th, (same, exactly twenty years ago;) fire-fly 29th.

Elizabethton, Tenn.—Frost 18th; dog-wood 28th. Season backward.

Austin, Tenn.—Rain, an inch snow 16th; sleet, icicles 17th; frosts 18th, 19th.

Clarksville, Tenn.—Light frosts 5th to 7th; skim ice, misty snow 17th.

Trenton, Tenn.—Snow 15th, 16th; heavy frosts, ice 17th, 18th, all peaches, many apples destroyed. Except 15th to 20th, fine month for planting.

Pine Grove, Ky.—Rain to 3d; wet snow all day 17th.

Shelby City, Ky.—Martins 2d; plowing 10th; showers, snow 16th.

Salem, O.—Snow 5th; aurora 24th; plum blossoms 25th.

Steubenville, O.—Aurora 24th; peach blossoms 24th, cherry 25th, plum 27th, apple 28th; frosts 8th, 13th, 23d, 26th, 30th.

Cleveland, O.—Lake open 11th; maple blossoms 23d, cherries 25th; heavy frost 26th.

Sandusky, O.—Pewees 8th; bluebirds 22d; apricots blossom 24th.

North Fairfield, O.—Snow 17th, with rain 18th, rain 19th; aurora 25th; ice 26th; peach blossoms 27th. Season two weeks early.

North Bass Island, O.—Heavy dew 11th; thunder 15th; last frosts 4th, 5th.

Hillsboro, O.—Snow, rain 17th; peach and early cherry blossoms 22d, apple 29th, (last year May 5th;) some frost 26th.

Toledo, O.—Rain, snow 15th, 16th; cherry blossoms 26th, peach 28th.

Bowling Green, O.—White aurora 25th; frost 30th. Spring favorable.

Urbana, O.—Aurora 30th. Month 4° above average, 5° above last year.

Springfield, O.—Snow 16th, 17th. At 5 p. m., 26th, air calm, sky clear, a sudden, sharp, musical sound in southwest, swelled till like rumbling thunder, (as if a ponderous mass was whizzing past with terrific speed,) and then died away far in the northeast. The sound lasted about one minute.

Bethel, O.—Light thunder-shower 11th; rain, snow, very cold 16th; peach blossoms showing 17th; light frosts 26th, 30th.

Jacksonburg, O.—Ice 7th; martins 13th; snow-storm 16th; peach, cherry, plum full bloom 24th, apple 28th; swallows 25th, 29th; aurora 25th.

College Hill, O.—Brilliant meteor 29th, sparks in its trail as large as a fist.

Detroit, Mich.—Auroras 3d, 25th; thunder-showers 13th, 24th; ground frozen, heavy white frost 26th, frosts 27th to 30th.

Adrian, Mich.—Beautiful bright aurora, portions rose color 25th.

Alpena, Mich.—Auroras 1st, 2d, 5th, 21st, 25th, 28th; blue birds 8th thunder and lightning 13th.

Litchfield, Mich.—Aurora 5th; cherry blossoms 30th.

Grand Rapids, Mich.—Aurora 5th; thunder-shower 24th.

Northport, Mich.—Auroras 2d, 25th; frogs 9th; thunder and lightning 13th; freezes 28th, 29th. Some apple trees killed, probably last fall.

Ontonagon, Mich.—River open 9th; frost 24th, lake open 30th.

Benzonia, Mich.—Lakes open 13th; snow 15th; bright aurora 25th.

Vevay, Ind.—Plum blossoms 14th, peaches 13th, pears 20th, apples 22d; snow 16th, 17th.

Mt. Carmel, Ind.—Rain, snow 16th; aurora, corn planting 25th.

Spiceland, Ind.—Rain, sleet, two inches snow 16th; lightning 27th. Numerous solar spots visible nearly all the month with one hundred power telescope.

Columbia City, Ind.—Bright auroras 5th, 6th; thunder 14th; rain,

sleet, snow 16th, ice 17th, much fruit destroyed; thunder-storm, high wind 27th.

Knightstown, Ind.—Cherry full bloom 27th.

La Porte, Ind.—Aurora, lakes open 5th; thunder 13th; storm, hurricane 27th.

Merom, Ind.—Swallows 6th; peach blossoms 10th, cherry 13th, apple 22d.

New Harmony, Ind.—Rain, six inches snow 15th, 16th.

Near Chicago, Ill.—Snowy 16th to 18th; month generally pleasant.

Evanston, Ill.—Aurora 2d; thunder and lightning 24th.

Marengo, Ill.—Auroras 2d, 5th, 25th; thunder-shower 24th.

Charleston, Ill.—Snow 15th; violent wind and thunder-storm 27th.

Mattoon, Ill.—Snow 16th. Half crop peaches. Earliest spring in years.

Aurora, Ill.—Oats, barley sowed 10th; frosts 26th, 29th. Season early.

Louisville, Ill.—Six inches snow 15th; peaches full bloom 26th; thunder-storm 27th. Early dry spring.

Belvidere, Ill.—Dry and warm to 23d, when mercury fell from 88° at 3 p. m. to 57° at 4 p. m., and to 48° at 4.40 p. m.

Ottawa, Ill.—Frost, ice, 5th, 29th; thunder-storms 13th, 27th; rain, hail, 15th, 16th. An unusually early spring.

Winnebago, Ill.—Auroras 2d, 5th, 27th; thrush, martin, 22d; thunder-showers 24th, 27th. Month 7° above average for 12 years.

Wyanet, Ill.—Lightning 12th; thunder-showers 13th, 14th; ground frozen 16th, 17th; apples blossoming 30th.

Tiskilwa, Ill.—April dry and warm, little wind, season early.

Hennepin, Ill.—Month warm, two light showers and a few snowflakes; rain needed. Orchard fruits hurt by last October freeze—(Shepherd.) Thunder-showers 14th, 28th; hail, snow, 15th; ice 17th—(Osborn.)

Dubois, Ill.—Nearly 5 inches snow 15th, 16th, killed most of peaches.

Manchester, Ill.—Martins 2d; thunder-showers, violent wind, 12th, 27th.

Mt. Sterling, Ill.—Thunder-showers 12th, 13th, 27th; swallows 14th; ice 16th. Farm work a month ahead of last year. Fruit trees blooming full.

Andalusia, Ill.—Best spring for farmers in many years.

Sturgeon Bay, Wis.—Thunder-shower, hail, 13th; aurora 24th.

Manitowoc, Wis.—Auroras 2d, 24th, 25th; river open 3d; lake open all winter; thunder-storms 13th, 23d, 24th. Warmest April in 19 years.

Milwaukee, Wis.—Ice out of harbor 14th; aurora 18th; hard frost 29th.

Embarrass, Wis.—Auroras 1st, 2d, 5th, 24th, 25th, 27th; thunder-storm, large hail, 13th; thrush, 19th. A very early spring.

Mosinee, Wis.—Robins 1st; auroras 5th, 25th; frost and snow gone 14th.

Baraboo, Wis.—Driest and warmest April known here.

Bayfield, Wis.—Thunder-storm 13th; snow-storm 16th; aurora 25th.

Minneapolis, Minn.—Bluebirds 1st; robins 3d; sowing wheat 4th; thunder-shower 14th; plum blossoms 30th.

Koniska, Minn.—Heavy thunder-gust 23d; brilliant aurora 25th. Finest spring I ever saw; dry and pleasant.

Madelia, Minn.—Thunder-clap at 10 a. m. 30th, calm, not a cloud visible; thermometer at 76°.

Clinton, Iowa.—Martins 9th; lightning 12th; heavy frost 15th; river

20 feet 2 inches above low-water mark, (higher than in 1859,) 20th to 24th.

Waukon, Iowa.—Auroras 5th, 18th, 28th, red a. m. of 5th, brilliant 25th; wheat sowing 6th; toads 13th; high river 21st; frosts 25th to 28th.

Dubuque, Iowa.—Cherry and plum blossoms 20th; Mississippi high as ever known 22d; thunder-storm, gale, 24th; aurora 25th.

Monticello, Iowa.—Heavy thunder-storm 24th; brilliant red aurora 26th.

Fort Madison, Iowa.—Wheat sowing 13th, oats 18th; snow 16th; corn planting 29th.

Guttenberg, Iowa.—Thunder-showers 10th, 24th. Fine April for seeding.

Independence, Iowa.—Hard frosts 4th to 10th, 16th to 18th, 29th; thunder, sprinkle, 10th; snow-spits 15th; plum blossoms 30th—(Warne.) First rain since March 30th, 27th; pleasant, dry month; wheat and oats all sowed—(Wheaton.)

Rockford, Iowa.—Ice gone 3d; thunder 11th, 14th, with timely rain 24th.

Iowa Falls, Iowa.—April never more favorable for seeding.

Algona, Iowa.—Light snows 15th, 16th; thunder-shower 24th; grains sown, corn and potatoes planted. Finest April in many years.

West Bend, Iowa.—Blackbirds 3d; auroras 6th, 25th, 28th; frogs 7th.

Boonesboro, Iowa.—Robins 2d; snow-squalls 15th, 16th; frosts 28th, 29th. Month 6° above the annual mean of 14 years.

Fontanelle, Iowa.—Ground frozen 4th, 5th, 6th; ice 5th, 15th to 20th, 28th; thunder-showers 24th, with sleet 14th; violets in blossom 25th.

West Union, Iowa.—Auroras 2d, 3d, 25th. Month 8°.5 warmer than last year.

St. Louis, Mo.—Thunder, lightning, rain, 13th, with high winds 27th; rain, hail, snow, 15th; snow 16th.

Allenton, Mo.—Thunder 13th, 27th; snow-storm, killing peaches, 16th.

Hematite, Mo.—Rain 14th; sleet, snow, 15th; deepest snow of season 16th; peaches, cherries, small fruits generally, injured.

Rolla, Mo.—Rain, high wind, thunder, 13th; rain, hail, snow, 15th; snow 16th; ice 17th; thunder-storm 27th; peach blossomed 10th, apple 25th.

Jefferson City, Mo.—Thunder-storm 13th; severe frost 17th, damaged fruits.

Kansas City, Mo.—Frosts 15th to 17th, killed pears and nearly all peaches.

Harrisonville, Mo.—Thunder 14th, 15th, 26th; damaging frost 16th.

Oregon, Mo.—Auroras 15th, 21st; freeze 15th to 17th, killed much fruit.

Burlington, Kans.—Ice 16th, damaged fruits in blossom.

Paola, Kans.—Gale 13th, with thunder-shower 14th; ice 15th, 17th, with snow 16th, killing vegetation and probably all peaches.

Baxter Springs, Kans.—Ice 15th to 17th; white frosts 18th to 20th.

Lawrence, Kans.—Heavy frosts 15th to 17th, on 17th below freezing all day, killing nearly all pears, plums, early apples, and *budded* peaches; cherries, winter apples, and *seedling* peaches unhurt; cherries blossomed 19th.

Holton, Kans.—The hard freeze 15th to 17th spared some peaches, cherries, and late apples; spring wheat and oats brushed in, all spoiled; corn up.

Le Roy, Kans.—First April snow in 13 years 16th.

Council Grove, Kans.—Thunder-showers 8th, 24th, 26th, 27th; ground frozen 15th to 17th; peaches in full bloom killed.

Bellevue, Neb.—Froze in shade all day 15th. Month 4° warmer than last year.

Nebraska City, Neb.—Ice 16th; early fruits killed; wild plum blossoms 24th.

Harrisburg, Utah.—Two inches snow 5th; cold 15th, then pleasant to 30th.

Chico, Cal.—Heavy hail, 2 inches deep, slight damage to crops and fruit, 12th.

Watsonville, Cal.—Strawberries, peas, 23d. More frost than usual in April.

Cahto, Cal.—Earthquake shock 17th, north to south, spilled milk from pans.

Clayton, Cal.—Severe frost 1st; earthquake, west to east, 2d, no damage; rain, hail, 4th; frosts 5th, 7th, 13th.

Deer Lodge City, Mont. Ter.—First lightning and thunder 5th; tornadoes 8th, 12th—on 12th mercury fell 20° in 20 minutes; fire-flies 24th.

Port Angelos, Wash. Ter.—Snow-squalls 4th to 7th; aurora 25th. Only 5 clear days in April. Season wet, cold, and backward.

NOTES OF THE WEATHER FOR MAY, 1870.

Steuben, Me.—Terrific thunder-storm, with hail, 1st. Very heavy frosts 8th, 18th.

Orono, Me.—Aurora to zenith 27th; vegetation very forward.

Williamsburg, Me.—Auroras, bright 2d, pale 30th; frosts 5th, 7th.

West Waterville, Me.—Bobolink 16th; plum blossoms 17th, apple 20th. Month 1°.57 above May average of 6 years.

Gardiner, Me.—Beautiful May, dry, average heat; crops promising.

Lisbon, Me.—Bobolink 17th; heat lightning 19th; aurora, crimson folds or curtains, 27th. Month fine but dry.

Norway, Me.—Linnets 15th; corn planting 20th; frost 23d; auroras 30th, splendid red 27th; apples in full bloom 28th.

Stratford, N. H.—Dandelions 15th; plum blossoms 18th, apple 27th, lilac 29th.

Whitefield, N. H.—Auroras 1st, 17th, 30th, 31st, bright red 27th; rain, 4 inches snow, 12th. Very dry spring.

Tamworth, N. H.—Whippoorwill 14th; dandelions 19th; apple blossoms 20th to 30th; ice 23d; bobolink 24th; aurora 30th. Drought severe.

Goffstown, N. H.—Aurora 27th. Last of May dry.

Lunenburg, Vt.—Snow, six inches, 12th; bright aurora, dark red 27th. No frost in May. Many vegetables four weeks earlier than last year.

North Craftsbury, Vt.—Auroras 19th, 22d, 26th, 28th, 30th, brilliant 1st, 27th and 31st; swallows 7th; bobolink 16th. Drought becoming severe.

Newport, Vt.—Auroras 1st, 27th, 28th, 30th; snow 12th; frosts 27th, 28th.

Woodstock, Vt.—Swallows, cliff 2d, barn 6th, bank 7th; bobolink 14th; hard frost 23d, Drought, low streams, vegetation suffering.

West Charlotte, Vt.—Auroras, crimson 1st, 2d, 6th, 13th, 14th, 15th 24th, and 27th, brilliant 28th, red 29th; bobolink 12th; pear full bloom 21st.

Middlebury, Vt.—Great drought, old pastures drying up.

Panton, Vt.—Auroras 1st, 18th, 28th, 29th, brilliant 31st.

Castleton, Vt.—Aurora 1st; dandelions 7th; thunder, lightning 19th.

Kingston, Mass.—Cherry blossoms 5th; thunder and lightning 10th.

Cambridge, Mass.—Aurora 27th; sun invisible 6th to 12th.

North Billerica, Mass.—Apple blossoms 17th; aurora 27th; northeast storm 28th; corn up 30th. Vegetation much advanced.

New Bedford, Mass.—Peach blossoms fall 10th; pear full bloom 11th, apple 25th.

Worcester, Mass.—Brilliant aurora 1st; cherry blossoms 1st, peach 12th, apple 16th; slight frost 18th.

Mendon, Mass.—Rye headed; season forward and promising.

Williamstown, Mass.—Peach blossoms 6th, apples full bloom 19th.

Columbia, Conn.—Dryest May in several years.

Moriches, N. Y.—Peaches full bloom 1st; whippoorwill 2d; thunder 3d, 7th, 10th, shower 20th. May has been a cloudy month.

South Hartford, N. Y.—Heavy thunder 19th. May cool and very dry.

Fort Edward, N. Y.—Hudson low, mills stopped, crops suffering by drought.

New York City.—Very heavy thunder showers 10th, 13th, 20th, 21st.

Glasco, N. Y.—Aurora 1st. May dry throughout.

Newburg, N. Y.—May very warm, 10° above average maximum.

Cooperstown, N. Y.—Apples full bloom 20th. Finest spring in many years; meadows need rain.

Utica, N. Y.—Auroras 1st, 22d, 27th, 31st; thunder-storms 19th, 23d.

South Trenton, N. Y.—Cherry blossoms 9th, apple 14th; first thunder 19th. A beautiful month, but too dry for grass crop.

Depauville, N. Y.—Auroras 1st, 7th, 22d, 24th, 27th, 31st; plums blossom 9th; apples 17th. May 4°.1 above mean of six years; severe drought.

Palermo, N. Y.—Linnets 8th; dandelions 11th; bobolinks 15th; lilacs 24th. Less rain this spring than in any spring in seventeen years.

North Volney, N. Y.—Auroras 1st, 27th. Last of month dry and warm.

Waterbury, N. Y.—Auroras 1st, 27th; thunder-shower 10th, 16th.

Nichols, N. Y.—Numerous light showers; vegetation two weeks forward.

Himrods, N. Y.—Cherry blossoms 1st, apple 15th; first thunder-showers 10th; aurora 27th. Grain and grass need rain.

Buffalo, N. Y.—Cherry and plum blossom 4th, apple 15th, lilac 17th. Month 9.75° warmer than the May average of twelve years.

Newark, N. J.—The greatest temperature of this May (82°) is below the past twenty-seven Mays except seven; its least (42°.5) is above the twenty-seven; and its mean (60°.41) is 2° above the mean of the twenty-seven (58°.47;) and despite easterly winds and cloudiness its rainfall is less than in Mays of many years.

New Germantown, N. J.—Very heavy thunder, forked lightning, rain and damaging wind 21st. Fine month for farmers.

Greenwich, N. J.—Apples full bloom 3d; showers eight days past, 11th; destructive hail at Salem 10th; strawberries ripe 24th; severe wind and rain storm 27th. No frost in May.

Dyberry, Pa.—Showers 6th to 12th; thunder-storms 19th, 21st; slight frost 23d. Season ten days early—promise of abundant fruits.

Fallsington, Pa.—Vegetation forward and strong growth.

Philadelphia, Pa.—Great hail-storm 8th—began and ended in rain—spheres from ¾ to 1½ inches diameter, doing immense damage.

Plymouth Meeting, Pa.—Wet month, eighteen rainy days; warmest

May in six years. Apples blossomed on 12th, 1867—17th, 1868—7th, 69—6th, 1870.

Whitehall, Pa.—Full bloom of cherries 3d, pears 5th, apples 10th, dogwood 18th, quinces 19th; heavy thunder-storm 20th.

Factoryville, Pa.—Aurora 1st; frost 2d.

West Chester, Pa.—Apple blossoms 1st; hail 8th; rye in head 13th.

Parkersville, Pa.—Full bloom of plum, cherry, peach 1st, apple 4th.

Tamaqua, Pa.—Heavy thunder-storm with large hail 21st.

Ephrata, Pa.—Chimney swallows 3d; dogwood blossoms 14th.

Harrisburg, Pa.—Heavy thunder-storm 8th; showers 10th to 12th and 23d to 31st.

Tioga, Pa.—Pleasant May—first without frost in twenty years.

Grampian Hills, Pa.—Wild plum blossoms 15th, apples 16th, dogwood 27th.

Johnsontown, Pa.—Apples full bloom 7th; hail storm 10th; heavy thunder-showers 23d.

Franklin, Pa.—First thunder-shower 4th. Rain on ten days.

Connellsville, Pa.—Rain 4th to 14th; hail on three days, thunder twelve.

New Castle, Pa.—Earliest May, by ten days, since 1859.

Woodlawn, Md.—Lilac blossoms 2d, crab-apple 11th; auroras 20th, 31st.

Johnsontown, Va.—Rye heads 1st; the eighth weekly northeast storm 2d.

Zuni Station, Va.—Hail 13th; fire-fly 14th; martin 19th. May warm, with more rain than in any of the eighteen months preceding.

Bacon's Castle, Va.—Fire-fly 20th; lands flooded 27th. Month calm, warm, much rain, thunder and lightning, peanuts rotting in ground.

Comorn, Va.—Dogwood blossoms 2d, blackberry 12th. Average May rainfall for 21 years, 3.63 inches—this year 4.15 inches.

Vienna, Va.—Dogwood blossoms 3d, locust 17th, Concord grape 31st.

Piedmont, Va.—Wind, rain, hail 21st. Warm wet May. Grapes blossom 3d, locust 17th; hail 6th; wheat heads 22d.

Oxford, N. C.—More rain 26th, 27th, than at any one time in many years.

Albemarle, N. C.—Thunder showers, with hail, 13th, 20th.

Bluffton, S. C.—May dry, not hot, cotton late, oranges frozen in February.

Berne, Ga.—April and May very dry, cotton on uplands nearly ruined, vegetables on white sandy soil burnt up.

St. Mary's, Ga.—Light thunder-showers 1st, 7th, 25th, 26th, 28th.

Fish River, Ala.—Very dry May, vegetation suffering.

Jacksonville, Fla.—Timely thunder-showers 11th, 25th, 26th, 28th, revived crops. Spring 3°.39 below spring average of twenty-five years.

Ocala, Fla.—Copious thunder shower 25th, saved corn and cotton.

Chattahoochee, Fla.—Very dry 7th to 26th, fogs 12th to 16th; light showers 26th, 27th, barely dampened the dust.

Gilmer, Texas.—Rain 30th, just saved the crops. A cool spring.

Oakland, Texas.—Thunder-showers 30th, revived suffering crops; first cotton blooms, corn silking 31st.

Lavacca, Texas.—First ripe plums 14th; drought till 31st. Water for drinking and cooking sold at $1 (coin) per barrel.

Lockhart, Texas.—Thunder-storm, strong wind 30th; destructive tornado, tore up large trees, 31st.

New Orleans, La.—Even trees need the rain just set in, 31st.

Cheneyville, La.—Dry month.

Columbus, Miss.—Violent thunder-storm, with hail nearly an inch in diameter, 23d.

Marion, Miss.—Warm May, two slight rains.

Philadelphia, Miss.—Thunder shower 6th, 24th, with hail 23d.

Natchez, Miss.—Not one wholly clear day, twenty-seven cloudy, and four rainy.

Elizabethton, Tenn.—Three thunder storms on 23d, with hail.

Austin, Tenn.—Heavy thunder 2d; slight fall of snow 12th.

Clarksville, Tenn.—Drought ended by heavy thunder showers 23d.

Trenton, Tenn.—May showery, some hail 2d, 31st; plowing hindered only three or four days.

Pine Grove, Ky.—Month showery, some thunder, little rain at any time, except on the 12th and 27th; violent wind on 23d.

Shelby City, Ky.—Aurora 9th; hot 15th to 23d, ending in thunder-storm, high wind, followed by showers, timely but needed.

Salem, Ohio.—First thunder 5th; rain, hail 9th; thunder-storm, snow, heavy hail 10th.

Steubenville, Ohio.—Thunder-showers, with hail, 10th, 11th, and high wind 23d. The last frost 25th.

Gilmore, Ohio.—First thunder-storm 5th, with hail 10th, with damaging lightning 23d—horses killed and barns burned.

Cleveland, Ohio.—May averages, *heat*, 1870, 60°.11—for 16 years, 57°.35; *rain*, 1870, 1.85 inch—for 16 years, 3.57 inches. Spring averages, *heat*, 1870, 46°.81—for 15 years, 46°.34; *snow*, 1870, 20.3 inches—for 15 years, 11.81 inches; *rain*, (and melted snow,) 1870, 8.33 inches—for 15 years, 9.33 inches.

Oberlin, Ohio.—Thunder-storm, gale, hail 23d. Crops need more rain.

Kelley's Island, Ohio.—Cherries blossom 6th, pears 9th, apples 14th, quinces 21st; thunder-shower, gale 23d; auroras 27th, 30th. Month 6°.40 above May average of 11 years, and 2°.45 above the warmest May, (1860.)

Sandusky, Ohio.—Aurora 1st; wrens 6th; wheat heading 30th.

North Fairfield, Ohio.—Heavy hail-storm 23d, had to light lamps.

Westerville, Ohio.—High winds 23d; frost nipped potato tops 28th.

North Bass Island, Ohio.—Little rain, ground too dry and hard for plowing.

Bowling Green, Ohio.—Aurora 27th. Dry and warm May.

Kenton, Ohio.—Damaging thunder hail-storm, covering the ground, 23d.

Urbana, Ohio.—Aurora 1st. Month 4°.5 above May average of 19 years, and nearly 12° above May, 1869. Crops suffering from drought.

Springfield Ohio.—Drought.

Bethel, Ohio.—Thunder-shower, hail 8th; great wind, little rain 23d. Three-fourths of corn on sod destroyed by cut-worms.

Detroit, Mich.—Auroras 1st, 19th, 27th; high frost 25th.

Ann Arbor, Mich.—Orchards in full bloom 6th. Season two weeks early.

Litchfield, Mich.—Colorado potato bug 15th, (numerous, but not injurious yet;) slight frosts 28th to 31st. Very dry.

Northport, Mich.—Plum blossoms 12th, cherry 14th; aurora 17th. Finest May known.

Otsego, Mich.—Great drought.

Copper Falls, Mich.—A warm and dry May.

Vevay, Ind.—Gale, copious rain, hail, ending drought, 23d.

Muncie, Ind.—Bright aurora 20th; hail 22d. Drought.

Spiceland, Ind.—Ground dry 1st; very dry 31st.

Laconia, Ind.—Thunder-showers, hail 10th, 23d; rain all day 31st.
Columbia City, Ind.—Hottest May in many years, and very dry.
La Porte, Ind.—Thunder-storms 6th, 19th, 23d; aurora 19th.
Chicago, Ill.—Bright aurora, changeable beams, corona, 19th.
Marengo, Ill.—Auroras 1st, 20th; thunder-shower 5th; frosts 10th, 20th.
Mattoon, Ill.—Ripe strawberries 20th. Warm, dry May.
Aurora, Ill.—Dry month; cold nights.
Belvidere, Ill.—No heavy spring rains. May nearly 9° above average.
Winnebago, Ill.—Auroras 1st, 19th; wild plum blossoms 2d, cherry 4th.
Wyanet, Ill.—May smoky; crops drying up; Colorado bugs bad.
Dubois, Ill.—Bobolink 2d; thunder-showers 4th, 31st, with hail 23d; hail and gale 10th; a dry May till 31st.
Mt. Sterling, Ill.—Here a few light showers; near here, many and copious.
Andalusia, Ill.—Mississippi higher than in 20 years, 1st. Hot, dry May.
Augusta, Ill.—Thunder-showers 9th, 23d, with hail 10th; severe gale 19th.
Manitowoc, Wis.—Auroras 1st, 19th; thunder-storms 4th, 5th, 21st, 22d; whippoorwill 5th; frosts 27th, 28th. Warmest May in 19 years.
Hingham, Wis.—Apple blossoms 4th; corn planted 1st to 20th, just up 31st; potato bugs thick 25th. Warmest and driest May in 10 years.
Geneva, Wis.—Very dry and hot; cistern dry; corn cannot sprout.
Embarrass, Wis.—Frosts 8th, 10th; whippoorwill 9th; aurora 19th.
Rocky Run, Wis.—April and May both dry.
Madison, Wis.—Apples blossom 1st, cherries 2d; ground dry 3 feet deep.
Mosinee, Wis.—Plums blossom 1st; hail, thunder 4th. Growing weather.
Baraboo, Wis.—Heavy rain and hail storm 5th; heavy rains 20th, 21st; dust flying as in July or August, 31st.
St. Paul, Minn.—No frost in May; rains timely.
Minneapolis, Minn.—Strawberries ripe 29th. Warmest May yet.
Koniska, Minn.—Slight frosts 8th, 11th. May fine; foliage never heavier.
Madelia, Minn.—Fruit trees full bloom 4th. Last frost April 29th.
Clinton, Iowa.—Hail 7th. A uniformly warm and pleasant month.
Waukon, Iowa.—Heavy rain, large hail, 21st—a tub collected 5.25 inches of rain in 11 minutes, and young orchards were utterly destroyed. Colorado bugs numerous, but Paris green (with ashes) sifted on the potato vines every few days, proves effectual.
Monticello, Iowa.—Frost 9th; three hail-storms 10th.
Bowen's Prairie, Iowa.—Hail 9th, 10th, 11th. Earliest spring in many years; warm May.
Guttenberg, Iowa.—Very dry till rain and hail on 11th.
Iowa City, Iowa.—Severe storm of wind, rain, hail 5th. No May frost.
Independence, Iowa.—Violent hail-storms 5th, 20th; peach blossoms 11th; aurora 19th. Fine growing month. Brilliant auroras 1st, 17th.
Waterloo, Iowa.—Unusually warm May. The freeze of April 14th, 15th, injured fruits considerably.
Rockford, Iowa.—Thunder, rain, hail, and hurricane 3d.
Algona, Iowa.—Growing month. Finest May ever known here.
Webster City, Iowa.—Aurora 17th; severe thunder-storm 21st.

Boonesboro, Iowa.—Auroras 2d, 17th, 26th; bobolinks 11th. Warmest May in 14 years—average mean 56°, this May 65.3°.

Sac City, Iowa.—Rain, hail 6th, 7th; aurora 17th; fire-flies 31st.

Woodbine, Iowa.—Heavy thunder-storm 5th, with hail 30th; frost 12th.

Hematite, Mo.—Fire-flies 1st; thunder-storm, high wind 5th; from 12th to 31st, very dry.

Harrisonville, Mo.—Hard thunder-storm, with high wind, 23d.

Oregon, Mo.—Auroras 3d, 24th, 25th, 27th; thunder-storm, followed by cold wind blasting tender shoots, fruits, &c., 5th to 7th.

Leavenworth, Kas.—Thunder-storm, gale, hail, (some as large as hen's eggs,) doing much damage 19th; apple and pear blight began 28th.

Paoli, Kas.—Strong damaging wind 6th, in gusts 16th, 17th, 22d, with thunder, a little rain, hail, 23d; light showers 30th.

Lawrence, Kas.—Drought till 19th; destructive wind 5th, 6th, 7th; copious rains 19th, 22d, 30th; ripe strawberries 20th.

Holton, Kas.—Highest wind in several years 5th to 8th, blasting plants and fruits; month dry till the showers of 30th.

Council Grove, Kas.—Dry till 21st; grand aurora 20th; copious rains 22d, 23d, 25th; thunder-shower 30th.

Omaha Agency, Neb.—Very heavy rains; fine growing season.

De Soto, Neb.—Damaging gale 6th; hail 20th; grapes blossoming 31st.

Bellevue, Neb.—Terrible wind 5th, 6th; frost 12th; aurora 17th.

Nebraska City, Neb.—Warm south wind 14th, 15th, 16th; thunder-storms 18th, rain very heavy 30th.

New Castle, Neb.—Thunder-storm, hail, 20th.

Chico, Cal.—Sharp frost 17th; heavy thunder-storm 25th.

Visalia, Cal.—Grapes blossom 6th; thunder-storm, hail, 16th.

Deer Lodge City, Mont. Ter.—Aurora 1st; heavy frost 3d; snow 16th; ice 18th; cottonwood in leaf 26th; furious snow-storm on 29th, ending June 1st, lay 5 inches in valley and 2 to 3½ feet on mountains—worst May storm ever known here. No lightning in May.

Denver, Col. Ter.—A cloudy, dry, windy May, none like it since 1863, the year before the great floods.

Portland, Oregon.—A pleasant May, with a few light showers.